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# THE JOURNAL of

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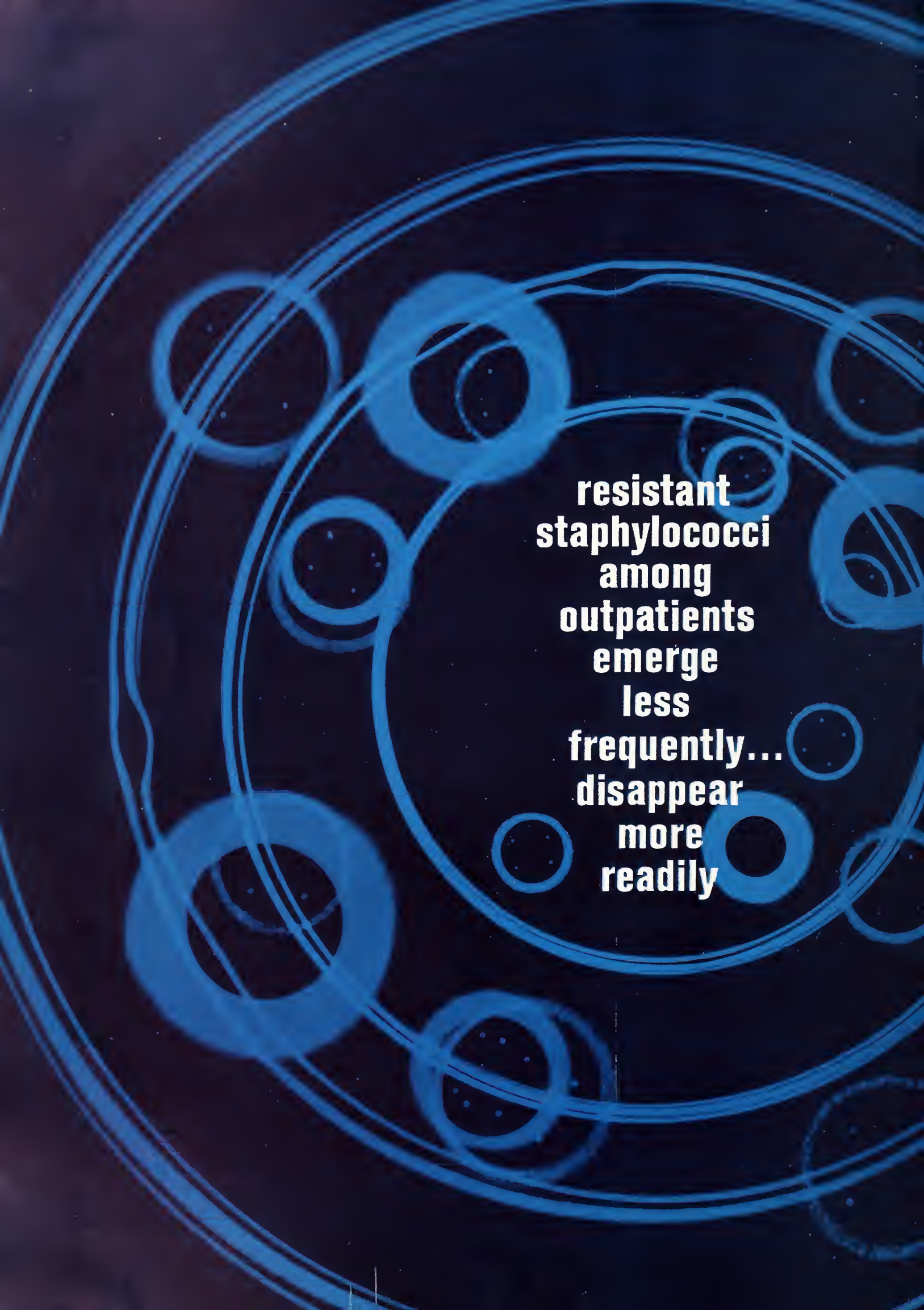
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# The Journal of the Maine Medical Association

Volume Fifty-Two

Brunswick, Maine, January, 1961

No. 1

## Leonardo Da Vinci's Heart Model And His Studies Of The Blood Flow

TIBOR DOBY, M.D.\*

Recently several attempts were undertaken to visualize the whirlings of the blood radiologically because of very practical implications<sup>1,2,3</sup>. Right now a new technique has been initiated to demonstrate the currents and this probably will lead to more exact diagnosis of intracardiac shunts, valvular insufficiencies, etc<sup>4</sup>.

In Leonardo's time this certainly was out of the question and even the mere thought of an explanation of the heart movements was looked upon as attempting the impossible. Fracastoro, Leonardo's contemporary, cast the opinion that the movements of the heart could only be grasped by God himself<sup>5</sup>. Fifty years had to wait for Colombo's experiments to show the lesser circulation and another eighty, or a total of 130 years, until Harvey's discovery. Leonardo however, dealing with both anatomy and flow of currents in stream and sea, got interested in the flow of blood. Just in the years when he started to deal more extensively with anatomy he wrote a book about "The Motion and Measurement of Water"<sup>6</sup>.

Most of the anatomical studies were performed by him during his second Florentine period (1503-1506), his second Milanese period (1508-1512) and his years spent in Rome (1513-1515). There, in one of his depressed moods, thinking of the divergent masses of unfinished studies he exclaimed "I wasted my time"<sup>7</sup>, in

the midst of remarks concerning the heart. (See chart.)

For the examination of the chambers of the heart he wanted to know all about their exact size and shape of the place in which the whirling of the blood takes place. For this he needed to know the size of the heart in its fullest possible state. The simplest method was to tie all the blood vessels starting from the heart and blow it up by means of a glass tube. But that still did not make the chambers visible. He therefore made casts of the chambers in the same way as he had done casts in his youth of feet and hands in his master's studio.

Leonardo still was not satisfied. To show the flow of blood inside, he made a model of the heart out of glass. He surrounded the wax cast with plaster of Paris and thus obtained the negative of the heart cavity. He then heated the wax, poured it out and blew a sealed off red hot glass pipe into the cavity of the plaster cast. After cooling, he broke off the plaster piece by piece and there remained the model of the heart's cavities in glass. He placed small membranes into his transparent model in the place of the valves and thus was able to observe the swirls produced within the aorta and the closing of the semilunar valves.

The role of the valves especially stirred up his imagination. In his text he repeated Galen's words mechanically, but in opposition to him he stated for the first time in history, that the tricuspid valves "close com-

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## THE WORKS OF LEONARDO DA VINCI

Leonardo's Places of Residence	Historical Data	Works of Art	Engineering Works	Scientific Works
1452-66 in Vinci	1452. The year of Leonardo's birth			
1466-83 Florence	1473. Leonardo is registered with the Painters' Guild in Florence 1478. The Pazzi family plot against the Medicis (bloody riots)	Small pictures and statutes in Verrocchio's studio†. The Annunciation (Florence). Adam and Eve†. The Virgin Benois (Leningrad). The Virgin Litta (Leningrad) Adoration of the Magi (Florence). Virgin with the Carnation (München). St. Jerome (Rome). Many pictures, drawings, studies†.	Designs for the canalization of the river Arno between Pisa and Florence. Designs of military machines (tank, minelayer, etc.)	Mathematical and geometrical studies. Study of works, mainly from antiquity, on the technique of warfare and on architecture.
1483-1500 Milan	1484-85. The Plague of Milan (50,000 dead) 1492. Columbus crosses the Ocean. 1496-1504. Copernicus in Italy (Bologna, Rome, Padua). 1499. Milan is captured by the French and then re-taken by Lodovico Sforza. 1500. The French occupy Milan.	Virgin of the Rocks (Paris, London). Portrait of a Lady (Cracow). Several portraits and frescoes. The Last Supper (Milan). The Equestrian Statue of Francesco Sforza (Milan) the complete-size clay as well as the small wax-model demolished†.	Designs of the re-planning and water-supply of Milan (partly executed later). Restoration and decoration of the Castle of Milan (partly†). Building of bath and pavillion in the Castle Garden†. Designs of machines for the textile industry. The fortification of Genoa actuated by the imminence of war.	<i>Begins to study anatomy</i> and the technique of flying. Studies in mechanics (motion, friction, the collision of elastic bodies). Friendship with Bramante, the architect, and L. Pacioli, the mathematician. Essay on painting. Plan of organizing an Academy of Sciences and Arts. Essay on human proportions.
1500-1503	Leonardo is commissioned to travel as the engineer of Cesare Borgia.	The Portrait of Isabella d'Este (Paris)	Design of the Isonso defence line against the Turk. Designs of hydraulic machinery (submarine, life-belt, etc.)	<i>Essay on the flight of the birds.</i> Aerodyn, principle of reciprocity.
1503-1507 Florence	1499-1504. Voyages of Amerigo Vespucci.	The portrait of Amerigo Vespucci† Mona Lisa (Paris) St. Anne (Paris) The Battle of Anghiari†	Detailed design of the canalization of the Arno, commissioned by the council of Florence	Design of an aeroplane. Attempt at flying. <i>Essay on hydrodynamics (streams, whirling motions, etc.)</i>
1507-1513 Milan	1511. Death of M. della Torre, the anatomist, friend of Leonardo. 1512. Mass. Sforza occupies Milan.	The Virgin Harry's (London) Bacchus (Paris) Leda (Paris)	Design of the drainage of the Piombino swamps. Design of the navigable canal of Cesena (executed later). Lago di Como—Martesana canal design (executed).	Anatomical studies. Friendship with Marcantonio della Torre, the anatomist. <i>Studies on the heart.</i> Plan of an encyclopedia of natural sciences (some parts preserved).
1513-1517 Rome	1515. The French re-capture Milan. 1516. Death of Giuliano Medici, Leonardo's patron.	Several portraits†	Design of the drainage of the Pontini swamps.	Study of anatomy. <i>Studies on the heart.</i> Experiments in optics (reflection, photometer, etc.).
1517-1519 France	1519. Death of Leonardo.	A few small sketches	Design of the canalization of the river Loire.	

Legends: † = destroyed, *Italics* = works on air, water and blood currents.





FIG. 1

Wax model of the heart chambers and great vessels using Leonardo's technique: "pour wax into the bull's heart that you may see the true form of this gate".



FIG. 2

The wax model of the right atrium, ventricle and pulmonary artery after removal of the left side structures. (Casts made by the author).

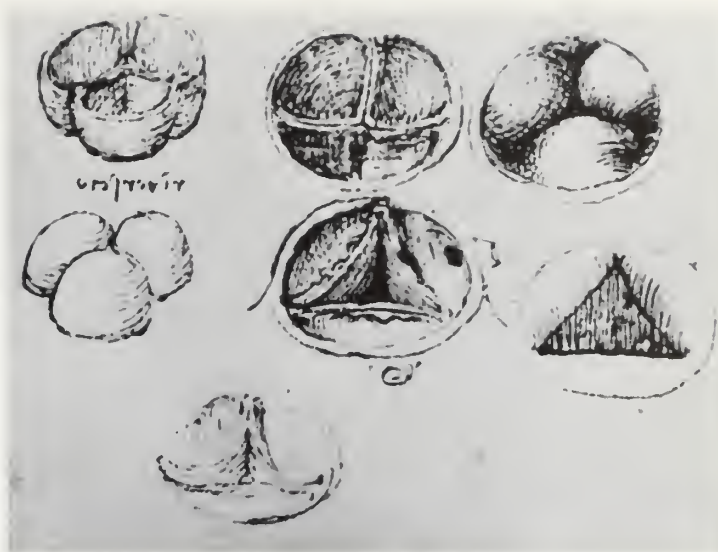


FIG. 3

Drawings of the semilunar valves seen from different sides and their wax cast in the second line left.



FIG. 4

The right side uppermost shows the crude draft of the glass model of the pulmonary artery. The drawing below shows the right ventricle (with the "moderator band") and pulmonary artery with streamlines of blood in them.



FIG. 5

Glass model of the pulmonary artery with blood currents closing the valves<sup>7</sup>.

logic experiments. His personal fabrication of the equipment he used and his meticulous ever-repeating scientific method of observation, not to speak of his unique fantasy, carried him many times further away and often quite far from his original goal. In spite of the ardent desire to use the newly invented technique of printing in order to distribute his thought and findings, his manuscripts did not get published for several centuries. In one of his last years he hopefully wrote: "Concerning the advantage which I should like to hand down to mankind, I shall teach you the process of systematic printing and I ask you my successors, not to let yourselves be turned aside by motives of jealousy from making such prints"<sup>7</sup>. But this was all in vain. He did not influence anybody in cardiac physiology. However even being aware of this, the fact remains, that nobody

pletely and perfectly"<sup>7</sup> and this is how he drew them in his sketch book.

His speculations however did not lead to any final solution of the problems and he admitted that his doubts in connection with the valves "are very hard to explain"<sup>7</sup>.

Whether the drawings of the blood currents in the heart derive from immediate observation in the glass model, or whether they are just imaginary deductions based on his studies of water and air currents, cannot be estimated.

Leonardo's unfortunate circumstances and his own perfectionistic tendency in his working habits prevented his completing these studies. He had to move to different principalities and countries several times during his life, with the tremendous drawbacks of facing new adjustments, new people and new demands every so often. Also his fabulous career as artist and engineer did not leave much spare time for physio-

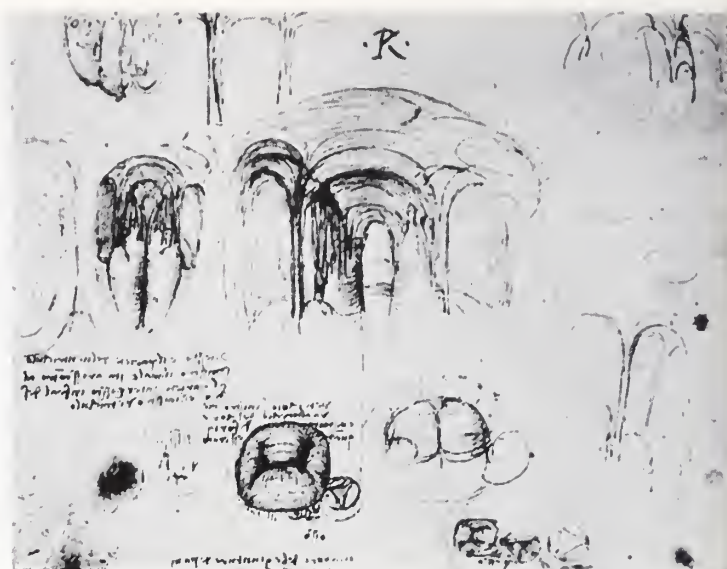


FIG. 6

Right ventricle with closed tricuspid valves pictured from the inside<sup>7</sup>.

ever attempted to show the blood currents in the heart chambers in a really scientific way up to our present times, except for Leonardo da Vinci. And he tried to do this almost five hundred years ago.

ACKNOWLEDGEMENT: I wish to express my gratitude for the help and assistance of the late J. F. Fulton, M.D., Sterling professor of the History of Medicine at Yale.

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# Streptococcal Studies In A Rural Area\*

ROBERT H. PAWLE, M.D.\*\*

The purpose of this paper is to increase awareness of streptococcal disease, and to encourage development of a rational program of handling the problem.

Today, the importance of streptococcal disease lies in its late complications, rheumatic fever and nephritis. According to Rammelkamp<sup>1</sup>, prevention of these complications is effected by antibiotic treatment of 10 to 14 days duration.

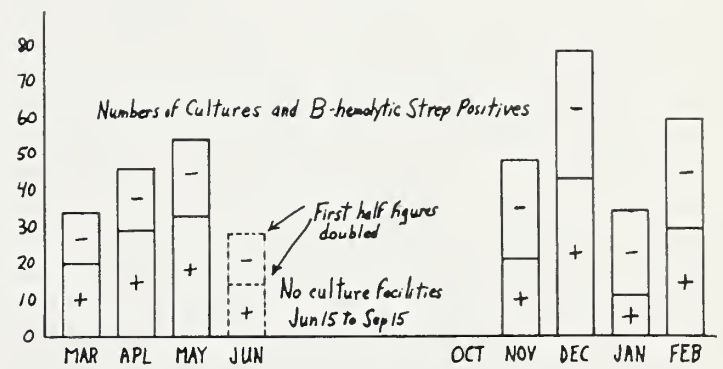
Throat cultures are helpful in this treatment — the patient who knows his culture is positive is more likely to cooperate by taking drugs for the necessary period of time, far beyond the duration of his symptoms, and is reassured by hearing that his culture has been converted. Cultures are very helpful in diagnosis, for a large portion of B-hemolytic streptococcal infections do not present the classical symptoms and signs.

I have surveyed the throat cultures taken at the Steep Falls Clinic laboratory from March, 1959 through February, 1960, excepting a period of three months from June 15 to September 15 when facilities were lacking. Three hundred and sixty-seven cultures were taken, of which 188, approximately 50%, were positive for B-hemolytic Streptococci; two revealed Pneumococci; hemolytic Staphylococcus aureus was found occasionally in both streptococcal positive and negative cultures.

Month	Total Number of Cultures Taken	Cultures Positive B-hem. Strep.	Cultures Negative B-hem. Strep.
March	34	20	14
April	46	29	17
May	54	33	21
June	14	7	7
(No culture facilities June 15 to September 15)			
Sept.	0	0	0
Oct.	0	0	0
Nov.	48	21	27
Dec.	78	43	35
Jan.	34	6	28
Feb.	59	29	30

Of all patients, 1/6 presented a clinical picture consistent with B-hemolytic Streptococcal infection and were positive by culture; the remaining 5/6 did not present this clinical picture — but 2/5 of this latter group were positive for B-hemolytic Streptococcus by culture. Of the positive cultures (1/2 of the cultures taken), only 1/3 were from patients clinically judged

to have B-hemolytic Streptococcal infections — the other 2/3 were from household contacts, or patients who presented vague clinical pictures. In the household contacts of a patient with a B-hemolytic Streptococcal infection, about 1/2 had positive cultures. Questioning of these patients revealed that most had minor cold symptoms, judged by them insufficient reason to consult a doctor, but which largely disappeared with penicillin treatment.



Two cases follow of the vague clinical pictures mentioned above in which positive cultures may be found. The first was a 12 year old girl seen in March, 1959 because of vague symptoms of poor appetite, no pep, and several episodes during the prior few months when she had missed school because of stomach aches. Menses commenced unremarkably six months before seen. Physical examination was unrevealing. I thought the girl was having functional adolescent problems, obtained hemoglobin and urine specimens, and sent her home on a program of rest, fluids, and vitamins. Unexpectedly, the urine report included albumin 3 plus, acetone trace, specific gravity 1025, sediment: occasional finely granular cast, rare RBC, 6-10 WBC with rare clumps, bacteria 1 plus. The following day, I was unable to find any historical or physical findings to suggest either glomerulonephritis or pyelonephritis, and obtained a throat culture. The culture report was B-hemolytic Streptococcus, and I gave her 1.2 million units Bicillin® intramuscularly as the only additional treatment. When seen one week later, her urine and her symptoms had cleared completely, and subsequently she has had no trouble. The second case was that of a 16 year old girl seen in April, 1959 for an illness of two weeks duration including recurrent nausea, stomach ache, and weight loss. She had had a slight skin rash one week before being seen. The rest of her family had had unusually severe colds all winter. Physical examination

\*Presented May 12, 1960 at the Twelfth Annual Alumni Day of the Maine Medical Center Alumni Association.  
\*\*Department of General Practice, Maine Medical Center, Portland.

revealed a sick girl, but one without fever or tachycardia. She had a tender node behind the right angle of her jaw, slight tenderness in the right lower quadrant of her abdomen. A throat culture was obtained. When this was reported positive for B-hemolytic Streptococci, she was given 1.2 million units of Bicillin® intramuscularly. Her symptoms and signs cleared promptly. Followup examination one year later revealed no abnormality.

Another picture occasionally seen is that of prolonged malaise after what seemed to be typical flu but occurring during the winter and spring months of high streptococcal incidence. Physical examination is not remarkable. Throat culture shows B-hemolytic streptococci, and penicillin therapy clears the symptomatology.

In other words, everyone who sees a doctor, during the streptococcal months, and whose history or physical findings even distantly suggests infection, is cultured. The yield of positive B-hemolytic Streptococcus is surprisingly high.

The plan by which patients suspected of harboring B-hemolytic Streptococci were handled was as follows. If the patient presented the clinical picture of infection, as outlined by the Committee on Prevention of Rheumatic Fever<sup>2</sup> — that is, symptoms of sore throat, headache, fever, and particularly in children, abdominal pain, nausea and vomiting, and findings of red throat, with exudate, swollen tender cervical glands, carlatiniform rash, and/or acute otitis media or acute sinusitis, a throat culture was obtained, and penicillin was started, usually orally at the rate of 1 million units daily. If the clinical picture was lacking, penicillin was withheld. If the culture was positive for B-hemolytic Streptococci, ten days of treatment was effected, and all household contacts were cultured and placed on prophylactic penicillin, usually  $\frac{1}{2}$  million units orally for five days; any of these reported positive were then treated as a primary case. No post-treatment cultures were taken unless a question of failure or recurrence arose.

The main difficulty with this program was patient cooperation. At the outset, I started taking cultures to show patients that they had no germs penicillin would cure, and didn't need that, "... just a shot of penicillin for my cold, Doc." However, I found I used the culture results to persuade the patients to take far more penicillin than they ever asked for. Even with a positive culture, the patient tends to discontinue the medicine when he starts to feel better in one to three days. I think that most treatment failures are due to this; in such cases, I usually gave parenteral penicillin. When a patient developed more than two episodes during one school year, I put him on penicillin prophylaxis for the rest of the year.

During this period, one case of probable rheumatic fever occurred. No case of nephritis developed. No cardiographs, urinalyses, nor other laboratory studies were performed without clinical indications.

Complications of treatment were few. Mild diarrhea,

never enough to stop penicillin, occurred in perhaps 1/5 of the patients, and minor itching without visible skin rash or discontinuance of treatment occurred in half a dozen patients. The only reaction of any magnitude developed in a man, 32 years of age, who had received penicillin without difficulty one year earlier; his past and family histories were negative for any allergic features. After nine days of the oral penicillin therapy, he developed a pruritic rash resembling erythema multiforme on his feet, one pre-tibial area, and the extensor surfaces of both forearms, plus pain in one wrist. Repeat throat culture was negative for B-hemolytic streptococcus. Sedimentation rate was 4 mm/hr.; white blood cell count was 12,000 with 11 eosinophiles. Initial treatment was only parenteral penicillinase, and when rapid clearing was evident one day later, antihistamines were added. Two weeks later, the white blood cell count was 9,000 with two eosinophiles; all symptoms and signs had long since disappeared.

A weakness of the program shows in the case of probable rheumatic fever. A 16 year old girl became ill with low grade fever, cough, and sore throat; examination revealed a tachycardia of 120, and one tender gland in her neck. Throat culture revealed only alpha streptococci and hemolytic staphylococci aureus. The girl recovered with symptomatic treatment. However, one month later, she developed a painful subcutaneous swelling in one forearm, and painful red hot swelling of two proximal interphalangeal joints; a throat culture was positive for B-hemolytic streptococci, the sedimentation rate was 40 mm/hr., hemoglobin 12.7 gm% dropping soon to 10.5, and her anti-streptolysin titre was 500 Todd units. Obviously, the initial throat culture should have been repeated. Similar experiences were reported in 1944 by the Committee on Acute Respiratory Diseases<sup>3</sup>. In the cases of streptococcal tonsillitis, 245 were positive by culture only after the third culture.

I wonder what the best program is. Rammelkamp's Committee urges us to treat B-hemolytic streptococcal infections vigorously, citing a 3% incidence of rheumatic fever in 1957<sup>2</sup>, and a 1.5% incidence in 1958<sup>1</sup>. Yet, James<sup>4</sup> reported 379 acquisitions of B-hemolytic streptococcal infections, inadequately treated, but without any subsequent rheumatic fever. Treatment of the asymptomatic carrier found among contacts may be futile, in view of a report by Hubbard in 1960<sup>5</sup>, in which he reported a 50% incidence of positive B-hemolytic streptococcus throat cultures in Philadelphia school children. This report states that the question of treating these children should be left up to the family physician. Breese and Disney reported in 1956<sup>6</sup> that  $\frac{1}{4}$  to  $\frac{1}{2}$  of the sibling contacts of a B-hemolytic streptococcal infection were also positive by culture, and even more frequently so if the primary case was one of acute otitis media and the siblings were three to four years old, and left the reader with the impression that all siblings contacts should be treated.



The problem of streptococcal infections immediately becomes complex when the late complications of rheumatic fever and nephritis, possibly declining spontaneously, are balanced against the complications of adequate antibiotic treatment. Any thoughtful approach to the problem should consider both aspects.

SUMMARY

Of 367 throat cultures taken in a rural area, approximately 50% were positive for B-hemolytic streptococci. A program of penicillin treatment of these patients and their household contacts is described. Both complications of the streptococcal infections and reactions to therapy were infrequent, and are discussed. The current literature is briefly surveyed, indicating that while all agree that the primary case of B-hemolytic strepto-

Laboratory examinations were performed by Barbara Tibbetts, M.T. (A.S.C.P.)

coccal infection should be treated vigorously, many differ as to the necessity and method of treatment of contacts.

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8 Walcott Avenue, Falmouth, Maine

YORK COUNTY DIABETES DETECTION PROGRAM — 1960

	<i>Specimens checked for glycosuria</i>	<i>Number of positives</i>
Industry	9976	13
Schools and Colleges	5551	19
Hospitals	1306	20
Detection Centers (drug stores, etc.)	1575	30
Doctor's offices	562	17
Town Employees (Sanford)	30	—
Town Farm (Sanford)	20	1
	19020	100

\*These results are not final.

DIABETES FAIR IN SANFORD

Attendance	500	
Blood Typing	296	
Prospective Donors	38	
Urine checked for glycosuria	273	6 positives
Blood Pressures	236	40 abnormal —
Range of Abnormality:		ages 30+
Systolic pressure over 150		
Diastolic pressure over 90		

# Atomedics - - A Medical Program For Our Times\*

HUGH C. MACGUIRE, M.D.\*\* and PROFESSOR ORON P. SOUTH\*\*\*

Atomedics is a term coined to identify a concept and a project for bringing medicine into the atomic age. Its objectives are to improve world health and to lower the cost of medical care.

Medicine and medical care both face serious problems today. Among these are the dwindling supply of doctors and nurses, as well as of other medical personnel, the increasing cost and length of medical training, the shortage of hospital facilities, the increasing cost of medical care, the increasing number of new drugs which physicians have to accept almost on faith, the difficulty with keeping physicians up to date, and the apparent decreasing productiveness of much of medical research. Basically these difficulties derive from three sources:

1. The practice of medicine is still much more of an art than a science.
2. In practice and in research, medicine is more concerned with disease than with health.
3. Modern technology and science are used but little in medicine and in medical care.

The concepts and capabilities are available for a revolution in medicine and medical care. Considering the difficulties both now face, and the rapid increase in population, a slow evolutionary approach to solving medical problems is completely unsatisfactory.

Better medical care at lower cost can be found through research in the following areas:

1. Mass produced items that can be used effectively and economically in the construction and operation of hospitals, doctors' offices and medical centers.
2. The applications of automation techniques and machinery to medicine and medical care.
3. Approaches that can be used to shorten and improve medical education.
4. The applications to medicine and medical care of electronic and biophysical instruments.
5. Improved means for assembling, analyzing, storing and disseminating medical information.
6. The application of a system concept to medical care.
7. The potential of long distance diagnosis through the use of communications and electronics.
8. The nature and attributes of health.

\*Presented at the 107th annual session of the Maine Medical Association, June 1960.

\*\*Atomedics Research Center, Montgomery, Alabama.

\*\*\*Research Studies Institute, Air University, Maxwell A.F.B., Montgomery, Alabama.

## MASS PRODUCTION

Although the modern hospital is the most complex and expensive building in our society, the rate of technological change makes it outmoded before it is completed. To surmount this obstacle, why not mass produce shells and room units to achieve low initial cost and to provide for model changes? With interior rooms disassociated from exterior structure, designers will have a freedom not now available, and the interchangeability which mass production allows can provide for rapid and continuous substitution of more up to date facilities. Mass production should significantly lower the cost of providing medical care units.

The mass production of meals, hospital linens (disposable), and certain medical supplies, could eliminate kitchens and laundries from hospitals, as well as afford economies elsewhere in the operation of a hospital. Kitchens and laundries are two of the most expensive items in a hospital. With rooms designed to store and prepare either prepackaged meals or reconstituted foods, a considerable saving in labor can be anticipated. Likewise, disposable linens, including bed sheets and clothing, could save the installation and operation of laundries. Undoubtedly other areas exist where savings could be effected.

## AUTOMATION

Two instruments now available can be used to automate many of the routine tasks of nurses and doctors. These instruments are the physiological transducer and the computer. The transducer is (in miniaturized form) a small instrument for detecting electrical, pressure, light and temperature difference and changes. They are now capable of measuring such body functions as temperature, breathing flow, breathing rate, breathing volume, heart rate, heart sounds, systolic blood pressure, and galvanic skin response, as well as providing an E.K.G. and E.E.G. When these are placed on a person or a patient and the output fed to a computer, the computer can give the doctor or nurse a complete record of the functions instrumented, and can take the nurse out of the bookkeeping business. Eventually when all hospitals use such instruments, a system will be provided for furnishing public health statistics of almost endless variety.

Considerable efforts have been made, and several projects proposed, for using the computer, or the computer and the transducer, for diagnosis. This use ap-



pears to be several years in the future because no one as yet knows what the meaning is, except in gross terms, of the readings taken by transducers, and because no really accurate objective information can be given to the computer as a basis for diagnosis.

At present the diagnosis made on an individual is dependent on the case history of the patient, the symptoms described by the patient, the experience of the physicians making the diagnosis, the school or schools attended by the physician, and the laboratory reports, if tests seem indicated. Most of the determinations made in this process are almost completely subjective and allow for large errors. Programming a computer with information collected in this fashion will only provide the doctor with an expensive tool that will not appreciably improve his ability above a certain point.

A more effective procedure seems to be to correlate empirical findings with objectively obtained readings so that eventually a more reliable machine diagnosis can be made. The heart of the difficulty is finding the critical relationships that disclose what the true diagnosis should be. This is only partially a computer problem.

After enough research has been done with transducers to determine how often body function readings should be taken to provide meaningful information, portable instruments can be used by those persons who wish to keep close track of the state of their health. The output from these portable machines can be fed to a central computer through telephone lines. Provision of such a system entails planning that needs to be started now.

#### MEDICAL EDUCATION

Shortening and improving medical education are dependent on progress in a number of different areas. If general laws of health and disease can be discovered, medical education can be shortened by eliminating much of present medical curricula. If medical knowledge can be placed on computers and students use learning machines, savings in time appear possible through elimination of extraneous material. If machinery can be developed for a continuous elemental analysis of the body, and this is used in conjunction with transducers to show variations in body functions, new techniques of diagnosis and treatment might be worked out. Finally, if improvements are made in electronic capabilities and if medical information is placed on computers and long distance diagnosis and consultation is a reality, medical students might receive on-the-job training in hospitals under a completely new system of medical training.

If medical care is studied as a system, it may be possible to change medical education rather drastically. As new procedures and techniques have been introduced in the past, relatively little thought seems to have been given as to what effect these would have on medical practice, or on medical education. The division of the body, for instance, into proprietary areas (both in the

medical profession and among the foundations) seems to have reached the point of diminishing return. If something like the Greek "whole man" concept is substituted for specialization, this will drastically affect medical education.

This raises the question of what function the physician is supposed to perform or fill. There are many indications that the public wishes the physician to be a combination of physician, philosopher, psychiatrist and priest. If machinery can be developed to handle adequately many of the physiological problems of the physician, then he might be free to consider the total health of the individual. This, of course, would call for considerable changes in medical school curriculums. Whatever the course of development, an intensive survey of the problems and possibilities seems in order.

#### ELECTRONIC AND BIOPHYSICAL INSTRUMENTS

In the past few years increased communication between electronic engineers and physicians has indicated the many areas in which electronics can contribute to medical care and medical research. Vast improvements are possible in existing machinery used by doctors, and innumerable possibilities exist for electronic instruments used by engineers and scientists but not by physicians. Applications can be worked out better and faster if physicians, engineers and scientists work together as a team rather than the physician commanding the organization.

By using what is available now, significant improvements can be made in medical care and medical research can be speeded up. The great promise of the future, however, is in the further development and use of instruments common to physics and biophysics. Up to now biochemistry has offered the most to medical research and practice, but limitations are now serious. Dr. Albert Szent-Gyorgi explained why when he wrote (*Science*, 26 September 1958):

"Present biochemistry stands under the domination of classical chemistry, according to which two molecules must come into bodily contact to be able to interact. . . . Perhaps we have taken a much too narrow view of life in trying to explain all its reactions in terms of classical chemistry. In order to understand we might have to descend from the dimension of macromolecules to those of electrons, from classical chemistry to quantum mechanics, taking into account factors such as molecular excitations, the resonance transfer of their energy, solid-state physics, the electro-magnetic field and its perturbations, long-range water structure, and possibly proton conduction. Everything seems possible at present."

If the biophysicist or physicist can design and construct an instrument for making a continuous elemental analysis of the body, a valuable diagnostic and research mechanism will be available. At the level of the molecule, the physicist may be able to make important con-

tributions to the study of man, for he is concerned with the study of matter. It may be, for example, that an astrophysicist can contribute as much to the study of man as the biochemist.

For the electronics engineer, the biophysicist and the physicist to make his maximum contribution, an environment needs to be created which will insure complete freedom for research and will encourage interdisciplinary exchanges.

#### MEDICAL INFORMATION

In medicine, as in other fields, one of the great stumbling blocks at present is an antiquated system for assembling, analyzing, storing and disseminating information. The procedures now used were designed for an age in which change came relatively slowly, and in which the total amount of knowledge was not large. The editor of the *Christian Science Monitor*, Mr. Erwin D. Canham, has noted that, "The greatest fact of our century, surely, is not atomic fission, nor great wars, nor power rivalries between two portentous systems, nor even the awakening of peoples. It is the growth of knowledge — the fantastic pyramiding of knowledge."

The best answer for handling the growing amount of knowledge available is the computer. Work needs to be started to determine how this can best be done, how information can be put in, kept up to date, and made available to students, research centers, and physicians. The initial effort expended on this should envision ultimately a world-wide system.

#### SYSTEM CONCEPTS

Industry and the Armed Forces increasingly are turning to the use of system concepts for handling large complicated problems. Only with such a concept is it possible to determine how changes will affect the entire system.

If such a concept is used in medicine, it should be possible to study the relationship between medical education and training, the environment provided for diagnosis and treatment, needed research, patient attitudes and needs, and economics, from a unified point of view. At present this is not done, with the result that changes may be introduced too early or too late, or may be entirely incompatible with the system in being, and areas where change is needed may be entirely overlooked. In essence, the present system has grown like Topsy; some forethought needs to be given to further growth.

#### LONG DISTANCE DIAGNOSIS

The ability to diagnose certain types of cardiac disorders and other diseases with transducers and communication equipment has been demonstrated by Dr. Norman Lee Barr and others. Extended use of similar equipment could make heart specialists available to anyone on the globe equipped with the necessary electronic devices. As more equipment is developed for such use

and its use becomes more widespread, long distance diagnosis can become commonplace. This would mean that the best specialists in the world will be available to any physician in the world. In such an eventuality, it might be possible, for instance, to shorten the medical training of the majority of men who want to go into practice. The possibilities here are tremendous, but they need to be studied from a system point of view.

#### HEALTH RESEARCH

"Not sickness but *health*," a famous doctor once noted, "is the greatest of medical mysteries." Despite this, relatively little research has been done to determine what health is. Yet it may be that a health orientation rather than a disease orientation may pay greater dividends in the long run. The case for health research was stated well in a *Life* editorial, February 17, 1958:

"With the accelerated advance of medicine in recent years, scientists have come more and more to realize that if they are ever to unravel the inner workings of disease, they must first understand the true nature of health. The human organism is a fantastically complex series of interrelated functions, and doctors today regard many diseases as disorders in a whole set of functioning parts, rather than a simple and direct attack on a single organ. Thus the real cause of an ailing kidney or a bleeding ulcer may lie in a remote part of the body whose workings are now only dimly understood. Not until the normal behavior is mapped out will their aberrations stand revealed."

The study of health and attempts to develop laws of health and disease, are more scientific pursuits than medical pursuits. This is not to say that present medical research may not develop such laws, but rather that scientists are by nature of training and temperament more suited to such a task.

Health must be defined not merely as the absence of disease, but rather from a wider perspective. Professor John Arnold of Stanford University advances the following view:

"I don't care if I design a machine and it fails: Oh, yes, I do care. I look at the machine and I try to learn something as to why I failed so I won't do that same thing again. I'm not too pleased though if the machine I designed does just as good a job as the average of all the other machines in that same class. As a designer my concept of normalcy is that my machine should deliver the power and the speed, and so forth, for which it was designed — the capacity that was designed into it. This is what I mean by normalcy. This is the kind of normalcy which you should have for health, that somehow man has built in him some potential, a wide variety of potential, that only when man realizes these potentials to the full, then is he truly



healthy and the kind of person we want in this world. So that we don't want just health, as we may think of it in terms of an average; we want health in 'what can man do, what should man do, what are his potentials and how can we develop these potentials within man?'"

To develop such a definition of health, social scientists will have to work closely with physical scientists and physicians.

#### ATOMEDIC RESEARCH CENTER

The Atomedic Research Center is a non-profit, tax exempt, corporation established to develop the concepts contained in Atomedics, and to undertake the research necessary to improve world health and to lower the cost of medical care. In the past three years the center has held two symposia attended by representatives of industry, science, education, government, and medicine, to refine and clarify ideas for improving medicine and medical practice.

Present plans call for the construction and test of the prototype of a mass produced neighborhood health center. This health center will be designed to serve a rural or city community of 2,500 to 5,000 people. The building will be light weight, air transportable, and completely instrumented for automation. The Alabama Legislature has passed a bill which exempts the Atomedic Research Center from existing building and sanitary codes so far as experimental medical buildings are concerned.

On the same grounds with the health center will be a workshop for the engineers, scientists and physicians who will help design, test and modify the health center and the equipment in it. This workshop will serve as a center for studying biomedical instrumentation.

A third unit of the Atomedic Research Center will be a study group composed of physicians, scientists and social scientists who will consult with the staff in the neighborhood health center and who will do basic research on health.

The fourth unit of the center will be the administrative unit which will coordinate the work of the other three units, study the problems of medical education, handle public information programs, and arrange for continuous liaison with the academic, industrial, and scientific communities.

When the Center is completed it will serve as a continuous test unit for studying the possibilities of new developments, techniques and concepts for medicine and medical care. After a prototype health center is developed and proven, it is contemplated that different firms can be persuaded to manufacture these for sale to towns and communities all over the world. These, as well as other medical facilities, will be interconnected in a vast HEALTH network. This development, obviously, is in the future, but if it is ever to be a practical reality, work on it must be started soon.

#### HISTORY OF ATOMEDIC RESEARCH CENTER

The ideas incorporated in Atomedics represent four years of research and thinking about the problems of medical research, medical care and medical costs.

First started as a project to build a Children's Hospital in Montgomery, Alabama, the scope of the design expanded as investigation revealed atomic age potentials for vastly improving practically everything connected with medicine and medical care. Research also revealed that those who knew most about the potentials — the scientists, technologists and industrialists — and those who could benefit most from use of the potentials — physicians, nurses, medical technicians, and patients — lived in two different, non-communicating worlds. These findings indicated clearly that improvements in medicine would come from a joint scientific, industrial and medical effort.

To determine the reliability of these conclusions and to explore additional dimensions of the problem, a symposium was held at the Air University in early 1958. This was attended by representatives of industry, the armed forces, the public health service, and the Institute of Nuclear Studies at Oak Ridge. The conclusion of this group was that the concepts outlined were reasonable, as well as exciting, and should be written down and distributed for further comment and discussion.

Following this suggestion, a small booklet entitled *Atomedics* was produced and distributed to various firms and individuals in the United States and abroad. In June, 1958 Mr. Alex Osborn, President of the Creative Education Foundation, invited representatives of the Atomedic Research Center to attend the Fourth Annual Creative Problem Solving Institute at Buffalo, New York, which was sponsored jointly by the Creative Education Foundation and the University of Buffalo. The members of the Institute were briefed on Atomedics and then brainstormed problems connected with promoting the project and improving medical care.

During 1958 and 1959 an active letter-writing program was begun to acquaint individuals and firms with the project, and to solicit help for the project. The ads in *Fortune*, *Business Week*, *U. S. News and World Report*, *Time*, and other magazines were scanned to locate companies that produced products usable in medical research or in improving medical care. Visits were made to talk with those who indicated an interest or willingness to listen.

In March, 1959 a second conceptual symposium was held at Air University to present to representatives of science, industry and medicine, the concepts and ideas connected with Atomedics. Comments received during and after the symposium were most favorable, and the Board of Directors were encouraged to seek national support for implementation of concepts.

Since the March symposium an effort has been made to secure support from selected companies, and to further publicize the ideas and concepts of Atomedics. As

a result of collaboration between Dr. Hugh MacGuire and Mr. Allen Rankin, Atomedics received public mention when the *Readers Digest* in November, 1959 published their article entitled "They're Bringing Space Medicine Down to Earth." This dealt with the medical applications of transducers.

The *Readers Digest* article resulted in Dr. MacGuire's appearance on Dave Garroway's Show TODAY. It also resulted in an article in the January 17, 1960 issue of *This Week*. Earlier, in September 1959, Dr. Louis

Orr, President of the American Medical Association, wrote a guest column about Atomedics for Robert S. Allen and Paul Scott.

In 1959 the Alabama Legislature passed a bill which will permit the Atomedic Research Center to build experimental structures without being bound by existing building codes or sanitary codes. The bill was signed by the Governor and is now law. A tax exempt status was granted by the Department of Internal Revenue in January, 1960.

### H.I.F. Study Finds 'Acceptable' Differences In Hospital Use

New York, N.Y., January 6, 1961 — The amount of hospital care considered "acceptable" by the public and by medical authorities varies sharply in different social settings, Health Information Foundation reported.

In the January issue of *Progress in Health Services*, its monthly statistical bulletin, the Foundation analyzed hospital utilization data in two different areas: in Indiana among a Blue Cross insured population, and in the province of Saskatchewan, Canada.

The Indiana statistics, taken from 1956 records of 843,000 Blue Cross subscribers, were compared with similar data for 1957 from 827,000 persons in the Saskatchewan Hospital Services Plan. In the latter area, 94 per cent of the population is covered under a tax-supported government insurance plan.

In general, the Foundation study showed, hospital use was much higher in Saskatchewan. Its hospital admissions rate, for example, was 208.8 per 1,000 population, compared with Indiana Blue Cross' 115.5. Average length of stay was also higher in Saskatchewan — 10.1 days per patient compared to 7.3. Moreover, the average number of patient-days in the hospital per 1,000 persons annually was 2,107.3 in Saskatchewan and only 838.8 in Indiana.

Part of the difference in utilization rates, the Foundation states, resulted from the "unfavorable" age and sex composition of Saskatchewan's population. For example, persons 65 and over (a group that uses more hospital care than average) constituted almost 10 per cent of Saskatchewan's population and less than 3 per cent of Indiana's. Even when adjustments were made for such differences, however, the contrasts between the two groups were still considerable.

Differences in utilization rates were spread through virtually the entire range of medical diagnoses, the Foundation added. Thus in Indiana the single most important major category among admissions was obstetrical care, at 24.0 admissions per 1,000 population. This was followed by diseases of the respiratory system at 18.7; diseases of the digestive system at 18.0; diseases of the genitourinary system, 10.2; accidents, poisonings, and violence, 7.2; and diseases of the circulatory system, 6.8.

In Saskatchewan the same diagnoses also constituted the six highest, but their rank order was somewhat different, and in each instance the admission rate was much higher than in Indiana for the same diagnosis. Respiratory diseases in Saskatchewan led all other diagnoses at 43.2 admissions per 1,000 population, followed by obstetrical care (36.4), digestive diseases (27.9), accidents, etc. (16.5), circulatory diseases (11.8), and genitourinary diseases (10.6).

For almost all diagnoses, the average patient remained in the hospital considerably longer in Saskatchewan than in Indiana. Some representative categories, with Saskatchewan's average length of stay listed first, included: cancer — 27.8 days, 15.5; circulatory diseases — 16.7, 11.8; respiratory diseases — 6.1, 3.4; digestive diseases — 9.5, 8.1; obstetrical care — 6.6, 4.6; genitourinary diseases — 11.4, 6.9; accidents, etc. — 10.0, 8.7.

George Bugbee, Foundation President, pointed out:

"The criticism of over-use or 'abuse' of hospital care is difficult to evaluate. This study does not attempt to judge which rate of use is 'correct.' However, the markedly greater use of hospital care in Saskatchewan, as compared with the Indiana Blue Cross experience, shows that there is a wide range of acceptable utilization rates in different situations."



# Behavior Differences Of Boys And Girls\*

NICHOLAS FISH, M.D.

Before starting a discussion of the behavioral differences between boys and girls, it would seem important to limit the subject in some manner. All reference to the physical differences will be omitted. My observations will be confined to a study of the children actually living at Sweetser-Children's Home — a residential treatment center for disturbed children of both sexes, between the ages of 8 and 18. There are facilities for the care of 16 girls and 24 boys. Despite this difference in numbers between the sexes, there is always a longer waiting list for boys than for girls. Children of both sexes and varying ages live in each cottage. There are three cottages accommodating 12, 12 and 16 respectively. The girls and boys live in separate wings of the same building. There are no locks or bolts keeping the two groups apart. There have been no pregnancies as yet and coeducation seems to cut down on the homosexual acting out of both sexes. The usual precautions one would take in an ordinary middle-class home are used at Sweetser.

One of the principles of treatment at Sweetser is that the cottage atmosphere approximates that of a middle-class home as nearly as possible. It is to this atmosphere that our children will return when they leave Sweetser. It seems completely unrealistic to create the abnormal type of undisciplined environment described by the workers in many residential treatment homes. Such an action can only lead to big upheavals when the children return home. At Sweetser we believe our job is to rehabilitate children so they can return to the community. A child seldom remains at Sweetser more than two years.

Another principle of treatment is to have the staff in general compensate for the unfortunate forms of parental care the children received at home by reversing them. These plans are initially laid at the time the child is considered for intake.

A third principle of treatment at Sweetser is based on the conviction that the milieu is the most significant aspect of treatment. Of course, the psychotherapy and case work which are provided for each child and many of the parents, if they exist, are considered very important also. However, our attitude about the key role played by cottage parents leads us to believe that their contributions to the thinking and planning of treatment are extremely important. As a result, their opinions are sought in all staff conferences concerning their children. These are carried on through the group supervisory method.

This brings us to the point of explaining how the

material discussed in this paper was collected. There were two different sources for the material. A group session was held by the staff concerning the difference between the behavior of boys and girls. The ideas expressed in this discussion represent the collective thinking of the staff as a whole. The second part is a consideration of some statistical findings in relation to the behavior of boys and girls.

At a casual glance one might expect to find little difference between the behavior of boys and girls. Both groups are human beings subject to the usual human frailties. However, on looking more closely one immediately becomes aware of the different expectations society has of the two sexes. Girls are expected to stay home and be housewives, while boys must go out into the world and make a living. Perhaps this explains why one finds that girls are passive and boys have a tendency to act out — or perhaps there is some innate physical cause responsible for the difference in behavior. In any case, the girls' passivity influences the way in which they resist and react in everyday situations. Girls are devious and tend to work on people's sympathies. They care more for how things are going to look on the surface, while boys care what a thing is like inside, and care little about how it looks on the outside. Boys tend to be more direct.

It is of interest that one most often finds exceptions to the expected patterns of behavior differences in effeminate males and the tomboy.

Many differences are noted between boys and girls in their everyday behavior. These dissimilarities often mean that cottage parents must treat children of each sex differently. They can be more direct in reprimanding boys whereas they have to be more careful what they say to girls or they will get upset.

Though one tends to think of the female sex as being daintier, neater and more fastidious than the male, at Sweetser this is not the case. Girl's closets and bathrooms are always messier. Outside of Sweetser, this difference is seen in public restrooms, as can be vouched for by anyone who has had to clean such places. When boys are asked to take a shower, they do so more willingly than girls. Girls are apt to over-shampoo their hair. Boys may never wash their hair on their own the whole time they are at Sweetser. This might suggest that girls are more interested in making a good outward appearance but care little what sort of mess they make as long as no one connects the mess with them. Boys don't seem to care how a thing looks as long as it functions properly.

This is often true in relation to the concern a boy

\*Sweetser-Children's Home, Saco, Maine.

or girl has about their bodies. Boys are concerned about their weight, height and size in relation to whether they will keep up with the others, make the team, etc., whereas girls are merely concerned about their looks and how their bodies will impress others.

When it comes to overt activity boys seem to take the lead. For example, more boys seem to be accident-prone than girls. Boys almost never ask to be excused from gym; girls frequently do. More boys need remedial education than girls. Perhaps this is due to a tendency of boys to be more overtly rebellious in school. More boys are enuretic than girls and more boys run-away. Boys also seem to resort more to knock-down, drag-out fights than do girls. However, girls seem to have more serious verbal fights. This also has been noted among the female staff members of our institution as compared to the males.

If a girl gets angry at someone she will say that she ought to hit that person in the nose, but will do nothing overt about it; rather, she will hold her feelings in and carry a grudge, finally letting her anger seep out in devious malignant ways. A boy, on the other hand, will say he is going to lambaste someone and then do it. A fight usually ensues and the air is cleared.

Boys are apt to grumble about going to church, whereas girls go good-naturedly. Girls are apt to show more interest in church, so much so that they more commonly want to change their religion than do boys. Of course, sometimes the change is made simply so the girl can attend the same church as her current boy friend. Girls in general seem to be more introspective in their reasoning than boys. This often gives them and the adults around them the false feeling that girls are more mature than boys of the same age. For the same reason, it is much more difficult to get a boy to discuss his personal problems in case work than it is to do the same with a girl. Girls are apt to have a need to talk and will become openly belligerent. This resistance is much easier to handle than the boys' quiet removal of himself from the treatment situation. The same holds true for giving confidences in other areas such as with houseparents, teachers and medical personnel.

As far as medical procedures are concerned there seems to be little difference in the way members of the two sexes accept these. Both boys and girls take shots, pills, cod liver oil and go to the dentist with about the same reluctance.

Boys seems to be more steadfast in their friendships than girls. Girls have a tendency to change alliances within their group almost overnight, so that a different girl will be in the doghouse every few minutes. Friendships among boys are more enduring. This fosters the formation of gangs among boys. Because of the shifting alliances among girls, they are less well organized and have more difficulty in picking a leader. Girls don't like to be led by other girls. Businesses have found this to be true and in organizations where the entire

working personnel is composed of women, men are used in supervisory capacities, because there would be too much friction otherwise.

When it comes to sports girls are apt to be more disorganized than boys. It is harder to sustain a girl's interest in a team, than a boy's. Boys enjoy the actual team work involved in a sport, while the girls want to be in the limelight. Girls will be there on the day of the game but are unwilling to spend the necessary time in practice. For instance, when it comes to horseback riding at Sweetser, girls like to go on trail rides but are unwilling to do the preliminary riding within the ring which is a pre-requisite to trail riding. Perhaps this is because, in general, girls like to show off more than boys. Perhaps this is why girls are more interested in dancing where exhibitionism is accepted. One often sees girls dancing together, but one never sees boys doing this.

Boys seem to be more goal-directed than girls, and therefore seem to be better on paid jobs than girls. At a cursory glance it might appear that this was because a wider field of activity is open to boys. At Sweetser for instance, boys are offered a chance to work on the farm and girls are not. However, girls are offered chances to work in other areas such as cooking, sewing, collecting berries and greenery from the woods. When such projects are first suggested most girls express interest, but when the actual time arrives very few are ready to go. Nor do they readily volunteer to work on their own. Boys frequently take the initiative in working. If they feel at a loss for something to do they often suggest going down to work on the farm, or they go out and find things to do that are not provided in the program of the institution, such as building shacks, constructing scientific models, etc. Girls seldom show this type of initiative and when at loose ends generally ask someone on the staff to suggest something for them to do.

Boys are more likely to have a goal that requires considerable work on their part to achieve, whereas girls frequently say they are going to marry a man with money so they can hire someone to do their work.

Many girls get crushes on staff members while this is not noticed with the boys. As a result, male staff members must be more careful in their relationships with girls, who frequently claim a man has made an indecent approach to them. Such is not the case with boys, who seldom say this of a woman. Similarly girls make extensive plans about how they are going to snare their boy friends. One of the favorite arenas for this enslavement is the dance floor. Because of this, girls often take over the management of a dance to the point that they see to it that only the chosen boys are invited.

Boys usually consciously know the way they are built sexually. They realize that they have a penis and testicles. If boys are upset about their role sexually, they may have fantasies of being turned into girls or have other bizarre sexual ideas of mutilation or perversion,



many of which they may carry out. Girls, on the other hand, are apt to deny that they have any genitalia. When they are upset about sex they often develop the "one hole" theory. Defecation, urination and intercourse all take place through one orifice. This goes on frequently to frigidity in women and, less frequently, to impotency in men. Girls who have performed actual sex offenses often put on a demonstration of excessive modesty and uncooperativeness if they are being examined by a doctor. Boys are more apt to accept the professional status of a female doctor or nurse without question. Cottage parents say that girls are more apt to be sexy than boys. Girls also discuss sex more easily in case work than do boys. Masturbation is more common in boys than in girls, although girls are caught more frequently. Perhaps all of these differences are due to the anatomical sex difference of which I promised not to speak.

Before moving on to the second part of the discussion, it is necessary to say more about Sweetser. Records have posed a problem for us as they have for all agencies. We no longer use the running record. We have substituted a four months' re-evaluation. Each member of the staff keeps his own records and reports them every four months. These are then summarized and transcribed. Incidentally, this saves us at least one secretary. It also saves considerable dictating time on the part of the professional staff, and provides an easily producible transcript if one is requested. This sort of procedure has made the staff in general a bit lazy about writing and reading notes. So instead of written reports by the houseparents we have substituted a weekly check sheet.

This check sheet provides a good medium for statistical study of any subject — in this case, for studying the difference in behavior between boys and girls. We keep a weekly graph of each child, based on this check list. It is rather like a temperature chart. The chart consists of a percentage rating between the total number of checks the child receives each week and the mean number of checks for all the children in his cottage.

These are computed and graphed on a weekly basis. The chart shows interesting things about the children, among which are actual graphical representations of changes in the patients' condition on a long term basis, and the patients' acute reactions to immediate stress situations. It also shows a very different type of graphical response in the case of some schizophrenic patients. This response is almost never seen in patients who have other diagnoses. For this reason the charts can be used diagnostically at times.

An acute upsetting environmental situation will produce what we call a spike. A spike is a sudden temporary deviation in the percentage ratings on the chart, and represents a radical change in the child's behavior. This may be either in the form of increased acting out, which we call a positive spike, or the acting out may be decreased. We call this a negative spike. A true spike

usually lasts only one week. Girls show more negative spikes and boys more positive spikes. In other words, if a boy gets upset he is apt to act out, whereas girls are apt to sulk. Of course both types are seen in both sexes. This difference has proved to be statistically significant with a probability of more and 5 to 1 by the  $X^2$  method.

It was also noted that girls in general had a slightly lower score each week than boys. This difference had a statistical significance of 5 to 1 or more.

Other graphic entities that we note in the percentage charts show little if any statistically significant difference between the sexes and therefore will not be mentioned here as they would only confuse the issue at hand.

As we mentioned, a check is kept and a weekly record is made of just how many checks each patient gets in each category. There are 33 categories of behavior on the check list. Since all cottage parents check this list on a slightly individual basis, there were no significant differences found between boys and girls by merely totalling the number of checks each got each week and comparing them. However, when the number of times a child never missed being checked at least once a week on one item for a six months' period was compared between boys and girls, statistically significant differences did appear. Also, when those items in which a child received no checks for six months were compared, similar significant findings showed up. Also, when those children, who had weeks in which they did not miss a single day in getting checked for one particular item, were compared there were definite statistically significant differences. These will all be lumped together for brevity into a single statement of difference in behavior between boys and girls.\*

The items used for this check list were developed from the usual complaints of the houseparents in regard to their charges. Therefore they may seem to be somewhat naive from a psychiatric or psychological point of view. Each item is defined specifically so that all cottage parents will score as nearly alike as possible.

Girls are found to be more sexy, show more unusual habits, be more bossy and noisy than boys. Boys are more apt to have poor table habits, do slipshod work, be defiant, refuse to study, be tardy, steal and be destructive than girls. All of the above items were found to be statistically significant by a ratio of 10 to 1 or better by the  $X^2$  method.

Girls were less likely to get up disagreeably, be careless, bite their nails, eat poorly, take a bath disagreeably or lie than boys. The statistical significance of these was between 10 to 1 and 5 to 1 by the  $X^2$  method.

It was also noted that six boys out of 23 were enuretic whereas only two girls out of 16 were, during a month's period. It was similarly noted that there were 23 run-aways among the 23 boys who were at Sweetser at the time of this study. The period of time involved was

\*Statistics available on request.

the entire stay of the boys thus far. Of the 16 girls involved in this study, there were only 10 runaways for a similar period of time. Although neither of the above findings are statistically significant by the methods used, the direction in which they tend is toward that indicated by the staff discussion.

Although most of the items reported as the thinking of the staff are consistent with the aforementioned statistics, this is not universally true. I am merely reporting the thinking of the staff.

The differences reported are really not startling. They mirror the well-known fact that girls are passive and somewhat devious in their behavior. In addition, girls are more concerned with the outward appearance of things. Boys are more concerned with the way things function. Girls seem to be more willing to reason introspectively and boys avoid introspection by sticking to "facts."

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*Cohen Named . . .* Wilbur J. Cohen has been named Assistant Secretary for Legislative Matters of the Department of Health, Education and Welfare . . . Cohen, who recently headed a study group on social security matters for Mr. Kennedy, supported the Murray-Wagner-Dingell bill, and the Forand bills of the 85th and 86th Congresses . . . Cohen's study group turned in a report calling for a compulsory social security medical care plan for the aged which would cost \$1 billion a year. The report also urged an additional \$250 million a year in federal aid to medical education and improvement of medical facilities . . . Other appointments in the Department of Health, Education and Welfare include Dr. Luther L. Terry, Rockville, Md., Surgeon General, U. S. Public Health Service; former Rep. James M. Quigley of Pennsylvania, Assistant Secretary for Federal and State Matters; and Alanson W. Willcox of Washington, D.C., general counsel . . . Dr. Terry was assistant director of the National Health Institute . . . Mr. Willcox was formerly general counsel of the American Hospital Association.

*Compulsory Health Care . . .* Former Congressman Aime Forand has finally admitted his ultimate purpose on the compulsory social security approach to health care. At a meeting following the White House Conference on Aging, he said, "If we can break through and get our foot inside the door, then we can expand the program after that." . . . On January 13, Sen. Pat McNamara (D., Mich.) introduced a resolution in the Senate calling for the creation of a Special Senate Committee on Aging to replace the present Subcommittee on Problems of the Aged and Aging . . . More than 3,500 bills have been introduced since Congress convened on January 3.

COUNCIL ON LEGISLATIVE ACTIVITIES



# Hypersplenism

## Case Report

GEORGE E. YOUNG, M.D. and H. CARL AMREIN, M.D.\*

In reporting a case of hypersplenism, one should first clarify the terms, as there is still considerable mystery about the function of the spleen, and some question as to the proper definition of hypersplenism. Our definition in the interpretation of this case is: hypersplenism is used to designate a large spleen, secondary to a number of conditions, with an effect producing anemia, often leukopenia, and very likely thrombocytopenia, and certain physiological splenic functions of which our knowledge is actually deficient as to the mechanics and processes of these functions. Having described our definition of the term hypersplenism, we go on to report a case of a more specific nature of hypersplenism, particularly that of splenic neutropenia and panhematocytopenia.

This is a 56-year old woman, who came into the hospital on February 24, 1960, with a chief complaint of severe headache. She gave a history of having had some dizziness and headache following an episode of flu; and was nauseated and vomited on several occasions. In spite of medication, her headache was still extremely severe, and she was very dizzy. Patient stated that she has had bouts of this type for the past two years. She also reported that she has had frequent bouts of joint pain and what she called rather severe rheumatism. She was admitted to the hospital for investigation. Past history indicated hysterectomy 14 years ago; left oophorectomy eight years ago; cholecystectomy four years ago.

Examination at the time of admission, revealed a well-developed, well-nourished, white female of 56 years. Head, Eyes, Ears, Nose and Throat were not remarkable. However, the patient had some definite tenderness over the right frontal sinus and over her right maxillary sinus. She was extremely apprehensive and pale. Examination of the chest was not remarkable; heart was not remarkable. Abdomen revealed a cholecystectomy scar and a hysterectomy scar, both well healed. Blood pressure on admission was 130/70.

NOTE: On this examination the spleen was not palpable, nor was the liver.

Routine blood examination on 2/25/60, revealed a leukopenia with a definite rise in the lymphocytes in proportion to the polys. She had a mild depression of her hemoglobin and red cell count (see chart). Bone marrow examination on this date showed a mild hyperplasia of the red and white cell series. Repeat blood work on 3/3/60, showed the white count was definitely

dropping and the lymphocytes were rising in proportion to the polys. Her hemoglobin was now only 58%, with a red blood count of 3.1, showing a definite depression of all the blood factors. It is interesting to note at this time that her spleen was still not palpable; also, that she was placed on a steroid on this date, (Decadron® 0.75 mgs.) four times a day. Because of her anemia, she was given 500 cc. of whole blood. This was delivered in glass bottles, and a repeat transfusion of 500 cc. was again given on the 7th of March. Repeat blood work on 3/10/60, showed a marked depression of the white cell series, 1,350; the lymphs have still stayed very high in relation to the polys which are only 22. On this date, she was given B<sub>12</sub>, 1,000 microns, and this was repeated the next three days. As one looks at the attached chart, it is easy to see that the lymphocytes increased until they reached a total of 97% with only 3 polys. Gastric analysis was done on 3/12/60, which showed no free hydrochloric acid. On this date, we were thinking seriously of a lymphatic leukemia in the aleukemic stage. At this time she was transferred to another hospital, where this work was repeated. Bone marrow was repeated also, and was found to be unchanged — "Mild hyperplasia of the red and white cell series"; but, her spleen was palpable on 3/15/60. Reticulocyte counts done at this hospital were all normal, as were urobilinogen and bilirubin. The patient was returned to us on 3/25/60, and at this time her blood picture showed a white blood count of 1,250, with 92 lymphs, 3 monos, 2 transitionals, and 2 polys. Platelet count was 230,000. Hemoglobin was 76, with 3.2 million red cells. Spleen at this time was palpable just above the umbilicus.

In making our decision for splenectomy, preoperatively it was necessary to consider congenital spherocytic hemolytic anemia; however, this was ruled out by the normal red cells, and no evidence of spherocytes in the blood smears. Closely associated with spherocytic hemolytic anemia is acquired hemolytic anemia, which was also ruled out in this instance because of the absence of reticulocytes and icterus that is associated with the disease. Idiopathic thrombocytopenic purpura was again considered. However, when one considered the secondary type of anemia that was present, the definite depression of all the blood elements, particularly erythrocytopenia, thrombocytopenia, and leukopenia, or, as stated previously, panhematocytopenia with splenomegalia with mild hyperplasia of the bone marrow in all ele-

\*Redington Memorial Hospital, Skowhegan, Maine.

DATE	6/9/58	2/25/60	3/3/60	3/5/60	3/7/60	3/10/60	3/11/60	3/12/60	3/25/60	3/26/60	3/30/60	8:00 a.m. 3/31/60	4:00 p.m. 3/31/60	8:00 a.m. 4/1/60	4:00 p.m. 4/1/60	8:00 a.m. 4/2/60	8:00 a.m. 4/4/60	8:00 a.m. 4/5/60	4/13/60	4/18/60	5/10/60
WBC	4,000	3,000	2,500	2,500	4,700	1,350	4,450	5,000	1,250	1,800	2,350	S	11,900	11,000	15,000	20,600	10,800	11,100	9,000	9,000	6,200
LYMPHS	24	67	76	75	74	75	83	97	92	94	93	U	23	11	16	12	27	23	46	69	77
MONOS		4		1			1		3			R		3		1	2	4	3		
TRANSITIONAL		3	9	8	3	3	1		2	6	2	G	13	20	14	16	12	12	7		2
POLYS	76	23	14	14	23	22	13	3	2		5	E	64	65	69	71	59	61	42	11	21
EOS.		2	1	2			2					R							2		
PLATELETS									230,000			Y	460,000	380,000	375,000	340,000	310,000	310,000	280,000	320,000	290,000
HEMOGLOBIN	80%	72%	58%	72%	81%	76%	76%	78%	76%	76%	77%		86%	87%	87%	88%	86%	87%	87%	81%	81%
RBC	4.2	3.5	3.1	3.6	4.7	3.5	3.6	3.7	3.3	3.3	3.7		4.3	4.9	4.4	4.4	4.3	4.3	4.3	4.0	4.0
BLEEDING TIME		2 Min.											1' 35"	1' 20"	1' 22"	1' 15"	1' 30"	1' 14"			
CLOTTING TIME		4' 33"											4' 14"	3' 56"	3' 55"	3' 39"	3' 55"	3' 52"			
PROTHROMBIN TIME		83%											76%	80%	85%	87%	89%	89%			
SED RATE		118 mm																80 mm	95 mm	81 mm	60 mm
BONE MARROW		Mild hyper- red & white																			
GASTRIC ANALYSIS								No free HCL													
TRANSFUSIONS				500 cc. whole blood	500 cc. whole blood								1000 cc. plastic								
pH						1000 micr.	1000 micr.	1000 micr.													
DECADRON			0.75 qid	0.75 qid	0.75 qid				0.75 qid	0.75 qid	0.75 qid										
LUMBAR PUNCTURE			Pandy 0 No cells T.P. 15 mg Sugar 14 Hinton neg. Collidal Gold 1111000000																		
SPLEEN																					

ments; the physiological influence of the spleen in the presence of splenomegalia seemed to be the only answer to our problem. Felty's syndrome was also considered. This was manifested by splenomegalia, with panhematocytopenia, and rheumatoid changes. However, this also responds fairly well to splenectomy, so splenectomy appeared to be the treatment of choice.

In preparation for surgery, the patient was given .75 mgs. of Decadron four times a day. This was done in an attempt to reduce the size of the spleen before surgery. The spleen did reduce in size. On 3/31/60, at 8:00 a.m., splenectomy was carried out through an abdominal incision. Spleen was immobilized without too much difficulty, splenic artery was ligated, spleen was massaged gently to bring down its size and replace blood into the general circulation. Spleen was reduced to about 2/3 its original size before ligation of the splenic vein. Patient was given 1,000 cc. of whole blood, gathered and administered in plastic containers, and at 4:00 p.m. the same day, the blood picture showed white blood count 11,900, lymphocytes 23, transitionals 13, polys 64, platelets 460,000, hemoglobin 86%, red blood count 4,300,000; bleeding time was 1 minute 35 seconds, clotting time was 4 minutes 14 seconds, prothrombin time was 76. This was approximately 6 hours after surgery. If one will look at the chart, it is evident that the white blood count came back to normal, elevated somewhat, and then seemed to swing back to a normal count. The differential has also returned to normal. The platelets are staying steady at a fairly normal figure. Patient made a satisfactory recovery from this surgery.

Pathological report on the spleen is as follows: "No evidence of malignancy or of any specific infectious process. Sections of spleen show mild dilatation of sinusoids giving a somewhat alveolar appearance; there is engorgement of the red pulp; some areas show mild lymphocytic infiltration; there is no anaplasia of cells; no evidence of a specific neoplastic process is noted; there is no definitely recognizable evidence of extra-medullary blood formation although the sinusoids do contain occasional nucleated cells; most of these are reticuloendothelial cells apparently originating here in the spleen. The lymphoid follicles show no evidence of anaplasia of cells or of other specific change. The overall appearance is not diagnostic although it certainly might be considered consistent with hypersplenism of unknown cause."

One now looks at the chart of 5/10/60, and sees that the lymphocytes are beginning to gain prominence in the differential again, and it is interesting that the patient still complains somewhat of her joint pains; although, her general condition seems to be definitely improved. Other portions of her blood picture have not changed. She seems to remain fairly normal, with the exception of the lymphocytic shift in the differential. We feel that probably all of the criteria now fit into the so-called Felty's syndrome.

#### SUMMARY

We have reported the case of a 56-year old woman with splenomegalia, neutropenia, and panhematocytopenia, evidence of rheumatoid arthritis, who seems to have made a successful recovery from splenectomy.



# Blood Typing Program In York County

MELVIN BACON, M.D.\*

Blood typing programs were conducted at various times during the year of 1960 in six towns in York County, Maine. The purpose of this project was to increase public knowledge of blood typing, to have each person know his blood type, and to secure more donors for the Walking Blood Banks of the hospitals in this area. Because of the success of this endeavor it was decided to report it.

## PLAN

The typing programs were conducted in Alfred, Goodwins Mills, Sanford, Shapleigh, Acton, and Newfield. The last two towns participated in the Shapleigh program. Newspapers and radio stations publicized the project. The Portland Press Herald, Biddeford Journal, and Sanford Tribune ran stories on this subject and radio stations WIDE, Biddeford, and WSME, Sanford brought it to the attention of the radio audience. The program was also announced from church pulpits and in their bulletins.

In Alfred and Shapleigh the Health Councils† set up and sponsored the programs. In Sanford it was sponsored by the H. D. Goodall Hospital. The town of Goodwins Mills sponsored the program under the direction of Mr. Raymond Burbank, Chairman of the Board of Selectmen, with the assistance of the Health Council.

Each of these programs was in charge of a physician assisted by laboratory technicians supplied by the H. D. Goodall Hospital. These technicians were well trained, reliable, and well qualified in procedures of blood banking and typing. The importance of this phase is well illustrated in a paper by Lipson<sup>1</sup> on "Blood Banking and Transfusions: Immunohematologic Basis and Practical Application."

In Acton, Alfred, Shapleigh, Newfield, and Goodwins Mills instructions were left at each house indicating that a blood typing program was to be held in the town. The place, date, and hour were included in these instructions with a note that everyone over age 14 years was eligible to participate without charge. The typing was performed in Shapleigh (which included Newfield and Acton) and in Goodwins Mills at schools, and in Alfred, at the Conant Chapel of the Congregational

Church. The hours were 7:00 to 9:00 p.m. and one evening was allotted to each town. In Sanford the program was held on November 15 and 16, 1960, in conjunction with the local Diabetes Detection and Education Drive at the Diabetes Fair at the Goodall Hall of the Unitarian Church.

After the individuals were typed, they were given a slip for their own possession which included name, blood type, Rh factor, and method used.

The short or slide method of blood typing was used and consisted of puncturing a finger with a sterile disposable lancet after cleaning the finger with alcohol. This was done by either a physician, nurse, or technician. The slide to be used was prepared previously by dividing it into three parts with a black marking crayon. A drop of blood was placed in each of the compartments. Type Anti-A Serum was added to the first drop, type Anti-B Serum was added to the second drop, and Anti-Rh Serum to the third drop of blood. Each drop was mixed individually and then the slide was rotated and tilted from side to side. The next step consisted of examining these drops for clumping over a box light. If clumping did not appear in drop one or two, the blood type was Type O. Appearance of clumping in the first drop only indicated that it was Type A; if in the second drop only it was Type B. Clumping in both the first and second drops was indicative of Type AB. Clumping in the third drop revealed it to be Rh positive and an absence of clumping in the third drop, Rh negative.

After the typing had been completed and the necessary information recorded, the individual was encouraged to join the Walking Blood Bank.

## RESULTS

The results are recorded in Table 1.

There were 548 individuals typed. It was significant that as many as 114 of these persons or 21% were willing to donate blood. Statistically the usual occurrence of the various blood types in the United States and in York County are as follows:

United States		York County	
Type O	45%	Type O	48%
Type A	41%	Type A	40%
Type B	10%	Type B	10%
Type AB	4%	Type AB	2%

There are more Rh positive than negative. This proved to be the case in our study. As to the Rh factor there

*Continued on page 22*

\*Member of the American and Maine Society of Internal Medicine, Staff H. D. Goodall Hospital, Sanford, Maine.

†A Health Council in a town is a voluntary group of public-spirited members of the laity and nurses assisted by physicians who are concerned with the health and welfare of their community and are doing something about it when the need exists.



*attains  
sustains  
retains*

*extra  
antibiotic  
activity*

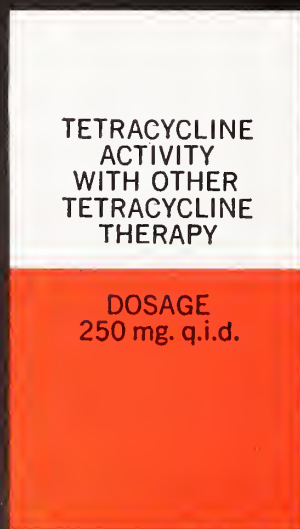
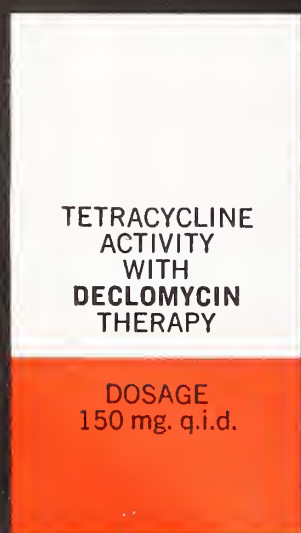
# DEC

*attains* activity  
levels promptly

**DECLOMYCIN** Demethylchlortetracycline attains — usually within two hours—blood levels more than adequate to suppress susceptible pathogens—on daily dosages substantially lower than those required to elicit antibiotic activity of comparable intensity with other tetracyclines. The average, effective, adult daily dose of other tetracyclines is 1 Gm. With DECLOMYCIN, it is only 600 mg.

*sustains* activity  
levels evenly

**DECLOMYCIN** Demethylchlortetracycline sustains through the entire therapeutic course, the high activity levels needed to control the primary infection and to check secondary infection at the original—or another—site. This combined action is usually sustained without the pronounced hour-to-hour, dose-to-dose, peak-and-valley fluctuations which characterize other tetracyclines.



POSITIVE ANTIBACTERIAL ACTION

PROTECTION AGAINST PROBLEM PATHOGENS

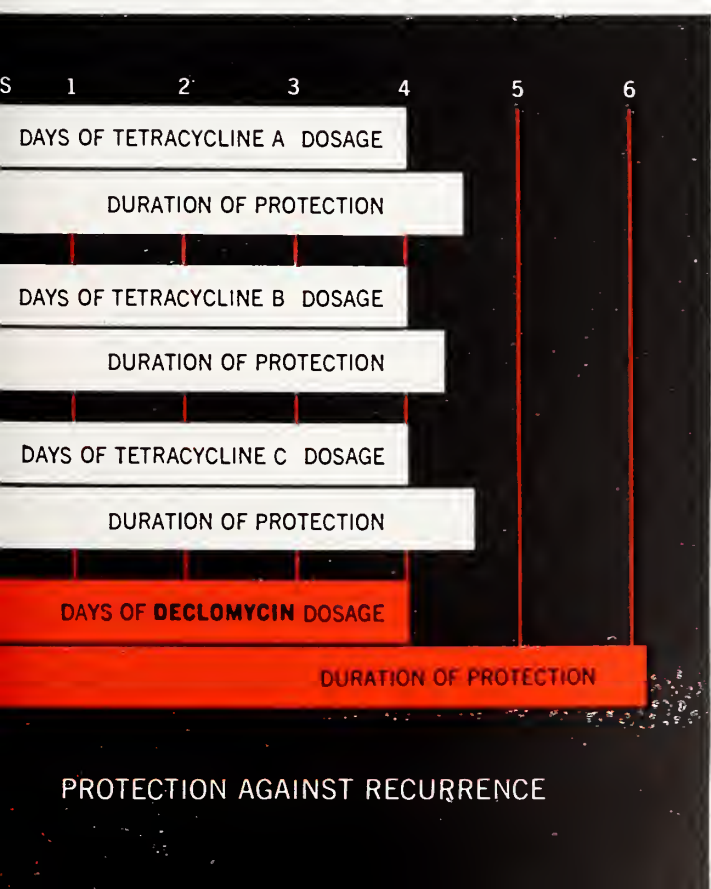


# DECLOMYCIN<sup>®</sup>

DEMETHYLCHLORTETRACYCLINE LEDERLE

*retains* activity  
levels 24-48 hrs.

**DECLOMYCIN** Demethylchlortetracycline retains activity levels up to 48 hours after the last dose is given. At least a full, extra day of positive action may be confidently expected. The average, daily adult dosage for the average infection—1 capsule q.i.d.—the same as with other tetracyclines...but **total** dosage is lower and duration of action is longer.



**CAPSULES**, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

**PEDIATRIC DROPS**, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

**SYRUP**, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

**PRECAUTIONS**—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.



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Results of Blood Types and Rh factors in 548 persons obtained during a blood typing program in six towns in York County, Maine.

TABLE I

Town	Type O		Type A		Type B		Type AB			
	Rh+*	Rh—	Rh+	Rh—	Rh+	Rh—	Rh+	Rh—		
Acton	1	4	3	1	4				Total	13
	1	2	1		1				Donors	5
Alfred	39	14	32	16	11	2	1		Total	115
	9	4	1	3	2	2			Donors	21
Lyman**	30	14	32 4?	5	2 1?		2		Total	90
	14	4	12 1?	3	1 1?				Donors	36
Newfield	1	1							Total	2
	1								Donors	1
Sanford	111	27	90	31	21	7	7	2	Total	296
	12	4	11	8	2			1	Donors	38
Shapleigh	14	5	6	6	1				Total	32
	6	1	1	2	1				Donors	11
Above towns	196	65	163 4?	59	39 1?	9	10	2	Total	548
	43	15	26 1?	16	7 1?	2		1	Donors	112

\*Plus and minus signs indicate positive and negative, respectively.

\*\*There were four Type A and one Type B in which the Rh factor was not determined. These could be typed by the long method of typing which is usually employed before an individual donates blood.

are 87% positives and 13% Rh negative in the general white population in the United States.

In this study the incidence was 75% Rh positive and 25% negative.

The value of this endeavor (in part at least) might best be illustrated by the following case. A Shapleigh patient at the Sanford Hospital with a certain blood type needed blood. At the time of the program in Shapleigh, the technician typed a man whose blood corresponded to that of the hospitalized patient. This man was asked if he would be willing to donate blood. He agreed whole-heartedly and the patient received blood from this donor.

#### SUMMARY

This paper presents a summary of a blood typing program in six towns in York County, Maine. The results were gratifying when one considers that 548 persons were typed and 114 or 21% were willing to donate

blood. The incidence of blood types in these towns was much the same as that found in the general population in the United States. However in our series there were 12% fewer Rh positives and 12% more Rh negative. The people were enthusiastic about these projects. It is hoped that this paper will stimulate other towns in Maine to carry out similar programs.

ACKNOWLEDGEMENT: I wish to extend my thanks to the various Health Councils; Sanford Community Health Association; Goodall Hospital and its Administrator, Florence Sharpe, R.N.; Carle E. Richards, M.D., Alfred; Marion K. Moulton, M.D., Newfield; George C. Chase, M.D., Pathologist of the Goodall Hospital; the laboratory technicians, nurses, and other public spirited individuals who gave assistance in this project.

#### REFERENCES

1. Lipson, C. S.; "Blood Banking and Transfusions: Immunohematologic Basis and Practical Applications." J. Maine Med. Ass. 48:183-195, (June) 1957.

122 Main Street, Sanford, Maine

# Some Facts About Physical Therapy

DAVID HARKINS, B.S., R.P.T.\*

Rehabilitation programs have achieved a deserved prominence nationally during the past few years, and here in Maine, competent staffs have been assembled and facilities built for all phases of this type of work, notably at the Maine Medical Center, Portland; Hyde Memorial Home, Bath; Thayer Hospital, Waterville; Eastern Maine General, Bangor; the Veterans Administration Hospital, Togus, and at the Pineland Hospital and Training Center, Pownal.

We believe that physicians throughout the state should tour one of these institutions and see at first hand the benefits that paramedical therapists can provide.

Having done so, county medical society program chairmen will want, we think, to devote one of their meetings next fall or winter to the subject of rehabilitation, and to have a physiatrist or a physical therapist as the guest speaker. Such an arrangement could be made to coincide with the local clinic of the State Services for Crippled Children.

Physiatrists, probably, need no introduction to doctors throughout the State but physical therapists are a group of men and women whose qualifications may be less generally known. Although their training has been less rigorous and prolonged than that of doctors of medicine, they are well educated people of considerable skill, and their dedication to their work is thoroughly professional. Under the supervision of physicians, they can contribute a great deal to patient care and they deserve to be carefully distinguished from people who have less training but profess to do the same work.

The American Physical Therapy Association was founded in 1921 by a group of 220 World War I reconstruction aides as the American Women's Therapeutic Association. The name of the organization was changed, first to the American Physio-therapy Association in 1922, and then the American Physical Therapy Association in 1948. At present there are chapters in all 50 states, in Puerto Rico and in the District of Columbia, and the membership totals approximately 8,600. State licensing laws for physical therapists are in effect in 36 states, Maine included, as a means to protect the profession and the recipients of the profession's services. A brief condensation of the Maine Physical Therapy licensing law taken from Chapter 67-A of the Revised Statutes, as enacted by P. L. 1955, Chapter 271 reads as follows:

"An applicant for a license to practice as a licensed physical therapist shall submit to the Board, at least

10 days before the date of his examination, an application for a license to practice physical therapy, on a form prescribed by the examiners, together with the payment of the required fee of \$15, evidence verified by oath, that the applicant is at least 21 years of age, is of good moral character, is in good physical and mental health, is a high school graduate, and is graduated from a school of physical therapy approved for training physical therapists by the appropriate subcommittee of the American Medical Association or, if graduated prior to 1936, the school or course was approved by the American Physical Therapy Association at the time of his graduation."

There is also an American Registry of Physical Therapists, for which individuals with either of two parts of training are eligible: (1) those who have completed a four year course of study leading to the Bachelor of Science degree in physical therapy; and (2) those who have completed a certificate program requiring between 10 and 16 months of intensive study, for which, with certain exceptions, a B.A. or a B.S. degree is the prerequisite. In either program, clinical practice under supervision is required prior to certification. The Registry administers an examination to those who have completed one or the other of the above training programs, and at present there are 7,000 registrants. The Association and the Registry have set up a strict code of ethics which includes the following principles:

1. He supports the basic principle that the profession of physical therapy is devoted to the best welfare of the patient.
2. He practices according to the prescription of a qualified physician, and he recognizes that the patient's condition and statements regarding the prognosis are direct responsibility of the physician.
3. He assumes responsibilities toward his associates by upholding professional ideals, by performing to the best of his ability, by striving constantly to improve his knowledge and proficiency, and by refraining from criticism of his co-workers or the physician in charge of the patient.
4. He considers it unprofessional to solicit patients to accept gratuities and obligates himself to report any instance of unethical practice of which he had knowledge, to the proper authorities.

Of the 38 schools of physical therapy, most of them closely associated with approved medical schools, the nearest are those at Boston University Sargent College, Boston, Massachusetts; at Bouve-Boston School, Tufts University, Medford, Massachusetts; at Simmons College, Boston, Massachusetts, and at the University of Connecticut, Storrs, Connecticut. The Maine Chapter of the Association maintains a directory listing of the

*Continued on page 25*

\*Director, Department of Physical Therapy, Pineland Hospital and Training Center, Pownal, Maine, President, Maine Chapter, American Physical Therapy Association.



# Gall Bladder Disease

## A Radiological And Pathological Study\*

IRVING J. POLINER, M.D.\*\*

With the greater life span in this country, gallstones and their complications have become an increasing problem. Monroe<sup>1</sup> feels they are a hazard to life in the aged patient. Colcock and McManus<sup>2</sup> in reviewing the cases of cholecystitis and cholelithiasis at the Lahey Clinic state: "The older age incidence of patients with acute cholecystitis and the fact that one patient was 80 years of age at the time of operation emphasize again the need for the elimination of disease of the biliary tract when it is first discovered." In their hands the mortality of patients over 60 was "almost double" the overall mortality. Saltz and Luttwok<sup>3</sup> point out that in non-surgically treated gallstones after five years complications occur with increasing frequency. These authors and others<sup>4</sup> are in agreement that cholecystectomy is justified for cholelithiasis, symptomatic and nonsymptomatic. Ultimately gallstones cause difficulty in the form of perforation, fistulas, obstruction and even malignancy. Chronic cholecystitis in itself often causes disabling symptoms.

The oral cholecystogram is an aid in the diagnosis of gall bladder disease. For this reason it was decided to evaluate its accuracy as proved by cholecystectomy and pathological examination at the New England Center Hospital.

### MATERIAL

All patients who had an oral cholecystographic examination, a cholecystectomy, and a diagnosis of gall bladder disease by a pathologist between September, 1947, and June, 1950, was included in this series. Seventy cases were found to fulfill these qualifications. Often the gallstones were diagnosed by plain films and no cholecystographic examination was needed. These cases were not included in this study.

### DATA

A roentgenological diagnosis of a "well filled gall bladder with stones" was made in 26 cases. In 25 of these 26 cases, stones were reported by the pathologist.

In one case (N.E.C.H. No. 42-438), chronic cholecystitis with no stones was reported by the pathologist.

### ACCURACY OF DIAGNOSIS IN 70 CASES

<i>Radiological Diagnosis</i>	<i>No. of Cases</i>	<i>Gallstones Present</i>	<i>Percent Accurate</i>
Well-filled			
with stones	26	25 (?26)	96.2% (?100%)
Faint-filling			
with stones	12	12	100%
No filling			
with stones	8	8	100%
Well-filled			
with no stones	4	0	100%
Faint-filling			
with no stones	2	2	0%
No filling			
with no stones	18	16	11.1%

In this case, the surgeon stated a stone was palpable in the gall bladder. The possibility exists that the stone was lost in transporting the specimen to the pathologist.

In 12 cases, a roentgenological diagnosis of "faint filling gall bladder with stones" was made. In all cases, stones were reported by the pathologist.

Eight cases were reported by the radiologist as "no filling of the gall bladder but containing visible stones." In all of these cases, the pathological diagnosis was cholelithiasis. These were probably calcium stones.

In four cases, there was a roentgenological diagnosis of "well filled gall bladder with no stones." No stones were found in the gall bladder in any of these four cases. Cholecystectomy was necessary in these cases because of other surgical conditions.

A radiological diagnosis of "faint filling of the gall bladder without visible stones" was made in two cases. The diagnosis by the pathologist in both cases was gallstones.

The roentgenological diagnosis in 18 cases was "no filling of the gall bladder and no visible stones." Sixteen of these 18 had gallstones. Of the two cases that had no stones, one (N.E.C.H. No. 44-084) was a 44 year old male. He had many symptoms suggestive of gallstones and a past history of jaundice. A cholecystectomy and a common duct exploration were performed. The pathological diagnosis was "healed cholecystitis." The second case (N.E.C.H. No. 24-858) was

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a 31 year old female. Previously a diagnosis of acute pancreatitis had been made, and drainage of her gall bladder and pancreas had been performed at another hospital. Eight months later, she returned with a pseudopancreatic cyst and abscess from which she eventually died. The pathological report on her gall bladder was chronic cholecystitis, which was compatible with the roentgenological diagnosis.

#### DISCUSSION

The oral cholecystogram is routinely used as a diagnostic procedure. Non-filling of the gall bladder may be due to extrinsic causes other than gall bladder disease such as; failure of the patient to take the dye, cardiospasm, pylorospasm, vomiting, diarrhea, failure of absorption through the intestinal wall, disease of the liver (cirrhosis, hepatitis, chronic passive congestion, etc., causing failure of removal of the dye from the blood, as shown by a 40% or more bromsulfalein retention one-half hour after injection), and nonpatency of the cystic duct. All extrinsic factors must be taken into account before non-filling of the gall bladder can be interpreted as gall bladder disease.

The normally functioning gall bladder will cast a dense radiopaque shadow 14 hours after the ingestion of the dye. After a fatty meal, the gall bladder shadow will be smaller and, perhaps, more dense. Stones may be present in a normally functioning gall bladder. A nonfilling or faintly filled gall bladder, after an adequate dose of dye, is considered a pathological gall bladder which may or may not contain stones. Delayed emptying after a fatty meal is in itself not significant and does not suggest the diagnosis of a diseased gall bladder<sup>1</sup>.

In the group of cases reported here, the radiological diagnosis showed good correlation with the surgical and pathological findings. If the criteria for x-ray interpretation are acceptable, the diagnosis was correct in 69 cases out of 70. When gallstones were reported,

they were present in 45 out of 46 cases. Sosman<sup>4</sup> feels there should be 99 to 100% accuracy in this group. In the faint filling and non-filling groups in whom gallstones were not visualized, 18 out of 20 proved to have stones. In Sosman's series<sup>4</sup>, 90 % of non-visualized gall bladders contained stones at operation. Colcock and McManus<sup>2</sup> reported similar findings.

Unfortunately, these figures do not present the complete picture. The patients reported were a selected group upon whom cholecystectomy was performed. No follow-up has been done on patients having an oral cholecystogram upon whom no operation was performed. What percentage of these have correct x-ray diagnosis is to be shown.

Finally, the number of cases studied is not statistically significant although it correlates well with similar studies.

#### CONCLUSION

If strict criteria are adhered to, the radiological diagnosis of gall bladder disease is sufficiently accurate to be helpful to the clinician.

ACKNOWLEDGEMENT: I am indebted to Dr. Alice Ettinger, Roentgenologist-in-Chief, and Dr. Samuel Proger, Physician-in-Chief, of the New England Center Hospital and Pratt Diagnostic Clinic for their advice on reviewing this manuscript.

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235 State Street, Portland, Maine

#### SOME FACTS ABOUT PHYSICAL THERAPY — *Continued from page 23*

qualified physical therapists in the State, and doctors who wish to have copies can secure them from Daniel F. Hanley, M.D., Secretary, Board of Registration of Medicine, P. O. Box 637, Brunswick, Maine.

The American Physical Therapy Association and its Maine Chapter sustains the following object: "To foster the development and improvement of physical therapy service and physical therapy education through the co-

ordinated action of physical therapists, allied professional groups, citizens, agencies, and schools to the end that the physical therapy needs of the people will be met." Only with a good understanding and the effective assistance and support of the physicians throughout the State to create the "unifying force" can this objective be accomplished.

P.O. Box C, Pownal, Maine



# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

**Free Medical Care**

*U. S. Doctors in Private Practice Donate \$658,000, 000 Worth of Free Medical Care Annually.*

Specialists Donate . . . . .	\$381,000,000
GPs Donate . . . . .	\$277,000,000

*Amount of Care Donated Annually by the Individual Doctor of Medicine.*

Specialist . . . . .	\$4812
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*Where the Free Medical Care Goes.*

Private Patients (Treated Without Charge)	39.9%
Hospital Ward Service . . . . .	26.5%
Outpatient Clinic Service . . . . .	22.7%
Miscellaneous . . . . .	10.9%

This percentage includes students, campers, scouts, amateur athletes, blood donors, charity cases, clergymen and emergency cases.

(MEDICAL ECONOMIC CURRENTS, Michigan State Medical Society, 1960 — Number 2.)

**Rate of Symptomless Heart Attacks Reported In Male Group**

An estimated 10 to 15 per cent of heart attacks among urban, middle-aged men occur without causing any signs of distress, a group of Chicago physicians said recently.

The estimate was based on a four-year study of medical records of 756 men, aged 50 to 59, employed by a

Chicago utility corporation, which is reported in the (November) *Archives of Internal Medicine*, published by the American Medical Association.

"Forty-one new cases of coronary heart disease developed during this period," the authors reported. "Of this group there were 20 cases of definite myocardial infarction (heart attack) with 3, or 15 per cent, of these cases totally asymptomatic."

**Oral Therapy Extended To Many Diabetics**

A combination of two drugs can extend oral therapy to "a sizeable group" of diabetic patients, a study showed recently.

The two drugs, tolbutamide and phenformin, previously have been used singly. They were administered in combination to 80 patients in whom the disease could not be wholly controlled with tolbutamide alone. Significant improvement was obtained in 70 per cent without causing any serious side effects.

The study was reported by Drs. Roger H. Unger, Leonard L. Madison and Norman W. Carter, Dallas, Texas in the December 24 *Journal of the American Medical Association*.

**Liquid Reducing Diets Keep Agencies Stepping**

Multiplicity of liquid formula reducing diets is keeping two Federal agencies busy — Federal Trade Commission for scrutiny of advertising claims and Food and



Drug Administration for misbranding. The former still has more reducing *drug* cases on its docket than 900-calorie food concoctions but it is giving increased attention to this latest fad.

In one recent seizure, FDA analysis disclosed 48 per cent less protein and 22 per cent more fat in the chocolate flavor mix than the label proclaimed. In vanilla flavor, the same product was 21 per cent short in protein and 13 per cent in excess on fat content. (WRMS Dec. 19, 1960)

### **U.S. Spending 1/2 Billion On Biomedical Research**

Federal support of, and participation in, biomedical research has grown to such proportions in past 10 years that the bigger agencies can scarcely keep up with projects under way inside their own walls. And as for research being conducted by sister departments and bureaus, there are large gaps in coordination and liaison. A Senate subcommittee has assumed grim responsibility of taking complete stock, figuring total cost and showing way to greater housekeeping efficiency. In course of its inquiry, the committee found Treasury is spending \$500 million a year. (WRMS Dec. 26, 1960)

### **Federal Legislative Roundup**

*Congress Opens...*The 87th Congress convened on January 3, raising the curtain on a legislative drama which will be of vital significance to American medicine...For the first time in six years, the same party will be in charge of both the executive and legislative branches of the government...And that party — the Democratic — and the chief executive — President-Elect Kennedy — have pledged themselves to enacting legislation under which the health care of the aged would become a part of Title II of the social security system...In the House, where one seat still is being contested, the Democrats apparently have 261 members to 176 for the Republicans. This represents a net Republican gain of 22 seats from last year...The Senate has 65 Democrats and 35 Republicans, a net GOP gain of one seat.

*Early Start...*On January 5, three days after the opening of Congress, Senator Pat McNamara (D., Mich.) introduced a compulsory medical care plan for the aged under the OASDI provisions of the Social Security Act...The bill, similar to the one he sponsored last year, would cover an estimated 13.2 million persons receiving regular federal old age retirement benefits. In addition, another 3.9 million aged, who are on either old age assistance or ineligible for old age federal benefits, would be covered...Sponsors estimated that costs would initially run \$1.5 billion annually...In introduc-

ing the bill, Senator McNamara pointed out that his approach to health care of the aged had been endorsed in the Democratic platform.

*Kennedy Bill...*Despite Senator McNamara's move, President-Elect Kennedy is expected to submit his own version of the social security medical care bill after his administration takes office on January 20...This will be the bill behind which the big push will be made.

*Congressional Maneuvers...*Medical care for the aged under Title II of the Social Security Act is one of a five-part priority package of domestic legislation sought by Mr. Kennedy...The priority programs — federal aid to schools, housing, and distressed areas, an increase in the minimum wage, and aged care under social security — are expected to get prompt attention. . . Most of the opposition to the Administration proposals is expected to come from the House...In the House, a conservative coalition has dominated the Rules Committee, which has successfully prevented consideration of unrealistic and expensive legislation dealing with minimum wage, school construction, and aid to depressed areas...An effort is being made to remove one of the conservative members of the Rules Committee...He is Rep. William M. Colmer (D., Miss.) who bolted the party's national ticket and backed unpledged presidential electors in his state...A meeting of Congressional leaders on the Colmer matter had been called for today, but was called off at the last minute...Because of the organization problem the new Administration is having, all committee appointments have been held up temporarily...In another move to pave the way for Mr. Kennedy's five-point program, Democratic senators are seeking a more effective curb on filibusters.

*The Outlook...*It is still too early to tell how Congress will act on the Administration-backed medical aid bill when it is introduced...One thing is clear, however...An all-out effort will have to be made by those opposed to the measure, if it is to be defeated.

*The White House Conference on Aging...*Results of which are certain to have some effect on aged care legislation, is being held January 9-12...Wilbur J. Cohen, in a letter to President Eisenhower, said he may boycott the meeting because he fears it will be "manipulated by organized medicine"...About 290 of the 2,700 delegates to the conference will be physicians...Labor leaders in New York will start an intensive drive against the AMA for its opposition to the compulsory social security medical care plan for the aged...Louis Hollander, chairman of the Committee on Political Education of the State AFL-CIO, said a series of meetings would be held to muster support for a congressional investigation of the AMA. (COUNCIL ON LEGISLATIVE ACTIVITIES, AMA)

# Report Of A.M.A. Delegate

## Clinical Session, Washington, D.C., December 1960

Many of you have read in newspaper headlines the words, "A.M.A. Mobilizes To Fight Medical Care For The Aged" or "President Askey Challenges Kennedy." It is another example of misinterpretation and misrepresentation of what was actually said.

### DR. ASKEY'S ADDRESS

These are President Askey's exact remarks and they should be known so the newspaper version can be properly refuted.

He stated, "The A.M.A. has been particularly interested in developing the specifics of a sound approach to the health services and facilities needed for the aged — We were pleased when Congress passed and sent to the White House a voluntary, federal-state plan of helping elderly persons who need help to meet their medical and hospital costs, your A.M.A. supported to the fullest this program (Kerr-Mills) because it believed the program would provide the best possible medical care for our older citizens.

"President Kennedy — will undoubtedly attempt to carry out certain promises he made in the field of medical care (inclusive under Social Security Program) for the aged.

"I can assure this new administration that the Medical profession has great respect for the office of the President of the U. S. and shall cooperate with it whenever and wherever possible.

"However, the A.M.A. does not intend to change its basic policies merely to conform to those of the new administration or any segments of either political party. We shall propose and promote our views on the betterment of public health for all age groups regardless of friends or foes. For us the best possible medical care and principle of freedom of the individual, both doctor and patient are far more important than political expediency.

"Our cause is far from lost. We know that our policy position is in the best interests of all Americans and our willingness to defend this policy must be strengthened and maintained."

He concluded his remarks on this subject by saying, "I strongly urge this house to charge all County and State Medical Associations with the responsibility of providing the medical leadership necessary to implement the Kerr-Mills bill as rapidly as possible."

### ACTION OF HOUSE OF DELEGATES DECEMBER 1960

#### *Ethics: Unnecessary Service*

Approved action of Judicial Council which ruled, "It is unethical, contrary to *Section 4 of the Principles*, for a physician to neglect his patients or to provide or prescribe unnecessary services or unnecessary ancillary facilities. It is also the opinion of the Council that "the charging of an excessive fee is contrary to *Section 7 of the Principles* which provides in part "that physician's fee should be commensurate with the services rendered and the patients' ability to pay."

#### *Surgical Assistants*

Regarding the ethical property of a surgeon employing an assistant. "It is not unethical for a surgeon to employ another physician to aid and assist him and to pay the assistant for his services, either on a per case or full time basis.

"When two physicians individually render care to the same

patient, then each should submit a bill for the services performed and each should receive compensation direct from the patient or his representative.

"If the employment of a doctor as an assistant is not bona fide, if it is in fact a subterfuge to split fees, or if the second doctor is not, in fact, an assistant and an employee of the surgeon, then the practice is unethical and is vigorously condemned."

#### *A.M.A. Office*

Commended Dr. Blasingame for his efficiency in handling the administration of the A.M.A. It noted that the mechanization of the Accounting Department resulted in a 40% reduction of employees of that department.

#### *Membership*

Noted that Maine had 569 Active A.M.A. members of the 959 physicians residing in the State; 277 are non-dues paying physicians, 113 are dues-exempt members. Of the 244,937 physicians in the country, A.M.A. has 179,333 members.

#### *Careers In Medicine*

A.M.A. distributed 12,000 "career guidance" kits to state guidance teachers and was co-host to 1,000 high school students at a Health Award Banquet of the National Science Fair.

#### *Publications*

Today's Health has circulation of 830,000 and A.M.A. News 270,000.

#### *A.M.E.F.*

Noted that in nine years, A.M.E.F. has contributed more than \$9,000,000 to the Nations 85 Medical schools.

#### *Recruits For A.M.A. Committees*

Agreed with Board of Trustees that component societies suggest the names of physicians qualified and willing to serve on the various councils and committees of the Association.

### INSURANCE AND MEDICAL SERVICE

#### *Health Insurance Committee To Advise Insurance Plans In The State*

Approved the recommendation of the Council on Medical Service that the Health Insurance Committee of each State society "be given increased responsibilities for exchange of information and liaison, and that they be available equally to all legally constituted pre-payment and/or insurance plans which do business in their respective area.

#### *Nursing Homes And Home Care Programs*

A recent nursing Home Survey pointed up the need for:

1. Universally recognized standards of care to provide a sound basis for evaluating services and facilities; (Such Guides are provided in a joint publication of A.M.A., A.H.A. and A.N.H.A.)
2. Coordinate nursing home services with that of hospitals and public health agencies.
3. Develop social, recreational, and restorative service to prevent patients in homes from deterioration in bed-fast state.
4. Urge more realistic payments to nursing homes by public



and governmental agencies, and "urged the development of Home-Care and Home-Makers programs to extend and improve care of the patient in his home."

#### *Community Program For Aged*

Encouraged continued leadership and participation by the medical profession in community programs for seniors.

#### *State Medical Society And State Department Of Health And Welfare*

Urged all state societies to take a greater interest in establishing liaison with state welfare agencies and guide and advise wherever and whenever possible.

#### *Policy Of A.M.A. In Field Of Aging*

Approved the following general policies for aged:

1. Older individuals should not be isolated.
2. A Health Maintenance program is necessary for every individual.
3. Voluntary health insurance and pre-payment plans can and should provide other basis for meeting the health care costs for most people.
4. Interest more people in working with older people.
5. Provide more and better nursing homes and house-care service.
6. Extend research in the medical and socio-economic aspects of aging by medical profession.
7. Develop programs for aged which emphasize self-help and independence.
8. Medical Societies should appraise and advise regarding proposed housing for older people.

#### *Drugs For Welfare Patients*

Approved a set of Guides for Drug Expenditures for Welfare patients which in essence were:

1. Use when possible of non-brand names as found in U.S.P., N.F., N.M.R.
2. Limit refills.
3. Prescribe standard size packages.
4. Instruct patient more carefully in drug use.

Approved recommendation of Council on Medical Service entitled "Public Assistance Medical Care." (Report C) — relative to Kerr-Mills bill.

#### *A.M.A. Consolidation Of Efforts A.M.A., A.H.A., Blue Shield To Maximum Development Of Voluntary Health Insurance*

Approved a resolve that "The House of Delegates direct the Board of Trustees and Council of Medical Service to assume immediately the leadership in consolidating the efforts of the A.M.A. with those of National Association of Blue Shield Plans, the A.H.A. and Blue Cross into maximum development of the voluntary non-profit concept to provide health care for the American people."

Attempt to coordinate the effects of private insurance carriers, other types of medical care plans, other professional groups, representative of industry, labor and the public at large."

#### MEDICAL EDUCATION

##### *Provision For Scholarship And Loan Program For Medical Students*

Approved a scholarship and loan program for medical stu-

dents to be supported by the A.M.A. and urged that there shall be local participation in the program at the state and county level. The proposed program will provide concrete evidence of the A.M.A.'s sincere desire to attract increasing members of well qualified young people to enlarge the ranks of the profession. Provision is to be made to allow participation of individual physicians as well as groups to "bring needed financial assistance on a broad basis to medical students under a system in keeping with the A.M.A.'s belief in individual responsibility."

Approved a complete report of Ad Hoc Advisory Committee in Post Graduate Medical Education which appeared in J.A.M.A. October 22, 1960, pages 1075 to 1079, and includes detailed principles for Medical Post Graduate programs.

#### *Education Of Medical Missionaries*

A.M.A. will assist in the continuing the education of Medical Missionaries.

#### MISCELLANY

##### *Dues Increases*

Approved a staggered increase in dues of \$10 in 1962 and \$20 in 1963, for the purpose of expanding programs of:

1. Financial assistance to Medical Students.
2. Continuing education of practicing physicians.
3. Health advice to the public.
4. Medical Research.
5. Faithfully portraying the image of the A.M.A. through its own and national publications.

Urged Board of Trustees to make every effort to reduce the number of non-dues-paying members.

##### *Retirement And Disability Insurance For Members*

Directed the Board of Trustees to prepare and present a plan for group disability insurance for the membership of A.M.A. which would not compete with plans of State Societies.

##### *Salk Vaccine*

Encouraged the Public and Physicians to continue to take advantage of Salk vaccine for prevention of polio since oral vaccine will not be available for practical prophylaxis until 1962.

#### VALEDICTORY

This report concludes my tenure as your Delegate to the A.M.A. For me it has been a valuable and interesting experience. I wish to assure you that the A.M.A. is truly working in your interests under the leadership of fine, dedicated, and devoted physicians. If each one of us spent as much energy and thought as do the A.M.A. officers and council members for the good of the profession, we should have no problem with the public image of the Medical Profession or adverse criticism from any quarter. The policies of the A.M.A. are sound and should be supported by all. Ignorance of the facts causes the greatest misunderstanding between A.M.A. and the home front.

I wish to thank you for the opportunity of serving you and hope my feeble attempts to pass on information to you have not been in vain.

PHILIP P. THOMPSON, JR., M.D.



DEAN H. FISHER, M.D.  
COMMISSIONER

## State Of Maine

# Department of Health and Welfare

## Radiological Hazards Today At Home And Off The Job\*

JAMES W. FULLER, M.P.H.\*\*

To provide basic facts for better understanding of this discussion, it appears that it would be advantageous to mention the kind and source of the various types of ionizing radiation that are potential health hazards at home and off the job.

The molecule is the smallest particle into which any substance can be divided and retain its physical characteristics. As an example, if a water droplet was divided and then further subdivided hundreds and hundreds of times, a point would be reached beyond which the water would no longer retain its identity. At this point of division, the water molecule would be divided into atoms of hydrogen and oxygen. As a further example, the atom of oxygen contains a core or nucleus made up of protons and neutrons and an outer area in which particles called electrons move around the nucleus at high velocities in specific orbits. The size of the atoms, that is the number of protons, neutrons and electrons per atom, determines whether the element is hydrogen or oxygen.

The particles and rays that are of the most concern are alpha and beta particles and gamma and x-radiation. Gamma and x-radiation differ only in that they come from a different portion of the atom. First, the alpha particles each of which consists of two protons and two neutrons, have great ionizing ability but low penetrating power. They can be stopped by a sheet of paper, the clothes people wear and the outer layer of the skin. These particles are therefore of little concern as an external hazard. Internally, the alpha particle would be in direct contact with sensitive tissues of various organs, and because of its high ionizing ability presents a serious hazard. Secondly, the beta particle or electron has greater penetrating power, up to several mm. of aluminum or six feet of air, but less ionizing ability. As such the beta particle can cause surface skin burns, and internally is definitely damaging to body cells. Thirdly,

the gamma ray or x-ray has great penetrating power up to several inches of lead or several feet of concrete. These rays constitute a potent internal and external hazard.

To conclude this portion of the discussion, a brief description of how these radiations act on the body cells seems in order. The detrimental effects are carried out through a process called ionization. For example, a molecule of water is used. An ionizing particle may strike this molecule knocking out an electron and resulting in the following reaction:  $H^2O + rad = H^2O^+ + e^-$ , then the  $e^- + H^2O = H^2O^-$ . These water ions  $H^2O^-$  and  $H^2O^+$  are called an ion pair. The average body tissue contains 85% water; thus an indirect damaging effect is the result as the water ion pairs are unstable and break down into substances like hydrogen peroxide which, as is well known, will destroy tissue. In addition, in a similar manner the radiation splits the large protein molecules of the body cells producing foreign bodies that in turn will destroy the ability of the cells to develop and continue living.

An alpha particle of 1 mev. volts of energy will produce 30,000 to 100,000 ion pairs on passing through 1 cm. of air. A beta particle of the same energy will produce about 100 ion pairs and X or gamma rays slightly less than 100. Before becoming unnecessarily alarmed, one should not forget that the human body has great powers of recuperation and much of the damage will be repaired. However, if health officials err, it must be on the safe side and the fact remains that radiation induced mutations are in general harmful and increase in direct proportion to the genetically significant exposure. Realizing the detrimental effect that this may have on future generations, the standards for maximum permissible exposures are being set at a very low level. Officials of the State of Maine Department of Health and Welfare are recommending that all unnecessary exposure to radiation should be avoided.

Radiological hazards at home and off the job can be classified as:

A. Natural    B. Man made    C. Environmental

\*A paper given at the 33rd annual Maine State Safety Conference in 1960.

\*\*Industrial Hygiene Engineer, Division of Sanitary Engineering.



Natural sources of radiation include external sources, namely cosmic rays and terrestrial radiations from radioactive materials in the ground, the air, and building materials; internally these are the normal body constituents, potassium 40, and carbon 14, radium and thorium deposited in the bones and radon and thoron in the tissues. The average annual dose from natural sources is about 100 mr. In certain areas this dose may be multiplied tenfold. There is in Maine such an area about 100 miles long and 50 miles wide extending from Bath on the coast to Newry on the New Hampshire line. This area contains many granitic intrusions called pegmatites. These intrusions are rich in uranium minerals compared with sedimentary rocks; consequently wells drilled in these formations contain larger amounts of dissolved radium and radon than normal. The Division of Sanitary Engineering is carrying out extensive research to determine the amount of this radioactivity and to evaluate potential hazards, if any. These natural radioactive substances are alpha, beta, and gamma emitters.

The first and most important man made "off the job" source of radiation is the medical use of x-rays and radioactive materials. The genetically significant dose of the population in the United States from this source is estimated to be 100 mr. Of course, individual doses would be much higher but it must be remembered that great benefits have come from the use of radiation by the medical profession, and that great strides have been made in recent years to increase the effectiveness of x-ray and at the same time the exposure doses to the patient have been lowered by improved techniques. No person should fear the use of radiation by qualified medical personnel.

Watches and clocks with luminous dials contribute only about 1 mr. whole body external dose per year. However, the dials may be painted with radium, an alpha emitter, and therefore, a serious internal hazard. Old broken watches or clocks with dials exposed should be kept away from young children. Recently this hazard has been reduced by using tritium, a very weak beta emitter. A TV tube may emit low energy x-rays, but they are so weak that they will not, in general, penetrate the glass of the tube. That useless and totally unnecessary source of radiation, the shoe fitting fluoroscope, has been outlawed in the State of Maine. These machines contributed a small dose for the whole population because of the relatively small number of persons effected, but they were definitely a severe hazard to individuals. In addition, there are the static eliminator brushes used principally by photography fans to remove dust from negatives. These brushes contain polonium, a pure alpha emitter. Here again is the problem of an alpha emitter more or less harmless externally, but a serious hazard when ingested. The maximum permissible whole body burden for polonium is 0.5 micrograms. The exact amount of polonium in these brushes

is not known, but to be effective it must be far in excess of this amount. Therefore, these brushes must be kept out of the mouths of children.

Radioactive contamination of man's environment occurs as a result of nuclear explosions and may also arise from radioactive waste disposal and accidents involving dispersion of radioactivity. Fission products from nuclear explosions injected into the stratosphere constitute a reservoir from which they fall onto the whole earth's surface over a period of many years. It is heartening to be able to say that the rate of fall out has not been as high as predicted. Therefore, the atmospheric contamination since the cessation of the weapons tests has been dropping fast and never did reach an amount that could be considered hazardous. The contribution per capita per year is approximately 10 mr.

The contamination from radioactive waste disposal is no hazard now and because of the extensive research being carried out by the Atomic Energy Commission on power reactors before they will be put into general use, there should be no problem in the future. Radioisotope use and disposal is so carefully controlled by the federal and state governments that there is no foreseeable danger from these wastes.

There is one more origin of radioactivity that might cause concern to the general population; this is the accidental spilling of radioactive substances in transportation. There again, the Atomic Energy Commission keeps very tight control and in the district offices throughout the United States there are teams of experts with mobile equipment for detection and decontamination of these spills. In addition, there have been accidents with airplanes carrying nuclear weapons. The hazards in this case is purely local as uranium 235 and plutonium are alpha emitters and they will contaminate only a very small area. It is recommended that people should stay at least 1500 feet away because of the danger of a TNT explosion. It has been estimated that there is only about one chance in a million of a nuclear explosion in these accidents.

To sum up the average exposures per capita per year:

A. Natural radiation	100 mr.
B. Man made	100 mr
C. Environmental	10 mr.
Total	<hr/> 210 mr.

And the present maximum permissible amount as set by the National Committee on Radiation Protection is 500 mr. per person per year for the general population. This is a very conservative figure.

There will be continued and greater use of radioactive isotopes in the future. There are hazards involved, but with care, people can learn to live with them just as they have with fire, toxic household chemicals and modern appliances. Ionizing radiation should be respected mut not unduly feared.

## Letters To The Editor

December 2, 1960

Daniel F. Hanley, M.D., Editor  
The Journal of the Maine Medical Association  
P. O. Box 637, Brunswick, Maine

Dear Doctor Hanley:

We, the medical students of the University of Vermont who are also Maine Residents, are writing to the Journal in the hope that you can make known to your readership our forthcoming plans.

As you are aware, the States of Maine, New Hampshire and Vermont have entered into a Compact in regard to the sharing of their facilities of higher education which provides that students unable to obtain equivalent training at their own State University be preferentially admitted to any one of the three Universities which offers the training which they desire. The tuition payment for these out-of-state students is intended to be equivalent to that of a resident of the State in question. Thus, a Vermont student planning a career in pulp and paper and technology which is not offered at the University of Vermont, may go to the University of Maine and study in this area while paying Maine resident's tuition.

It is not generally known that all the benefits of this plan do not apply to the Maine Resident who seeks to study Medicine at the University of Vermont. He receives preferential treatment in regard to his admission but when accepted as a student he is expected to pay full out-of-state tuition. This is presently \$1500 a year — the highest Medical School tuition in the Nation.

Until now, the Maine Resident Students here have borne this burden with as much good grace as we could muster. Last year, however, the State of Massachusetts signed an additional compact with the School providing a payment of \$2500 dollars a year from State funds. In return, Massachusetts residents receive a reduced tuition rate of \$550 a year.

As a result of this arrangement the number of Massachusetts residents in the entering class has increased to 70% of the class while the number of Maine residents has decreased by no less than 40%. While it is unquestionably true that we regret the financial inequality under which we labor we are truly alarmed that the number of Maine residents going into Medicine has decreased so sharply.

For this reason, and with the announced aid of Governor Reed, we are planning to bring this problem to the attention of the Legislature in the hope that action will be taken to avoid what may become a disastrous situation for the Medical Profession in Maine. Hence we appeal for the personal and the collective aid and support of all Maine physicians. Any help that you can give us in bringing this issue squarely and sharply before the public and the Legislature will be deeply appreciated by,

The Maine Resident Medical Students at the  
University of Vermont Medical School by J. R. Dooley

Dear Doctor Hanley:

I read with a great deal of interest the letter you received from J. R. Dooley of the Vermont College of Medicine.

I was not aware that there was any reciprocity among the three states as far as sharing any facilities. However, if there is such a compact, I certainly feel as does Mr. Dooley and his group, that Maine is getting the short end of the stick. If this is entirely true, I certainly feel that the Maine Medical Association should take up some type of resolution and hand it to the Maine Legislature to correct what seems to me is a

gross miscarriage of justice. If we are educating the students of Vermont and New Hampshire at our university, at Maine residents tuition fees, then certainly Vermont should educate our students at the Vermont residents tuition fees.

I for one would like to have more information on this matter and if this situation is as I understand it, then I think a resolution in the Maine Medical Association should be adopted and sent to the Governor and also the Legislature, stating that we wish to have this investigated and corrected.

Madison, Maine

H. CARL AMREIN, M.D.

Dear Doctor Hanley:

I was much surprised, and not a little alarmed, at the contents of the letter you forwarded to me relative to medical students from Maine at the University of Vermont. If this is a factual statement of the problem in question, I am very much in accord with Mr. Dooley and his group in their attempt to correct the obvious discrimination against State of Maine medical students in Vermont. It would seem to me that a student in medicine should enjoy at least equal consideration with a protege of the pulp and paper industry, even as an economic asset to the state and that our legislators should be made cognizant of this fact.

Rumford, Maine

JAMES A. MACDOUGALL, M.D.

Dear Doctor Hanley:

In this issue of the Journal you have published a letter from the residents of Maine enrolled at the University of Vermont College of Medicine. These students have expressed a mature concern over the alarming drop in the number of Maine residents who have chosen the profession of medicine during the past few years.

They also indicated their intention to bring this problem to the attention of the Maine Legislature. It is fitting that they should do so, for the next step in the effort to improve opportunity for Maine residents to study medicine must be taken by the Legislature. The University of Vermont has already offered to reserve a substantial number of places in the College of Medicine, on a contract basis, for bona fide residents of Maine. Other medical schools in the region are considering offering places on a similar basis. The Legislature must now decide whether it will appropriate the funds necessary to accept such offers.

The plan under which these places are offered is sponsored by the New England Board of Higher Education. Under the plan, the state would contract with the New England Board of Higher Education and the Board in turn would contract (for example) with the University of Vermont for a quota of places to be reserved for Maine residents.

For each bona fide resident enrolled under contract, the state would agree to pay \$2,500 through the Board to the University. The University would retain its present control over admissions, the academic program, and dismissals. It would charge contract students only in-state tuition (\$550); \$950 of the \$2,500 would be used to make up the difference between in-state and out-of-state tuition. The balance would help to pay the cost of educating the student. The estimated total annual cost of a medical education is \$5,000.

The record indicates very clearly that Maine needs to take immediate steps to encourage more young people to enter the study of medicine and dentistry. Between 1956 and 1959 the number of Maine residents enrolled in New England medical schools dropped from 62 to 40 — a decrease of 35.5%. Measures should be taken to reverse this trend.



In the years ahead the demand for medical services will increase sharply, not only because the population is growing, but also because as people become better educated and more prosperous they demand more medical care.

While money appropriated by state Legislature cannot work like a magic potion sweeping away all of a state's medical manpower problems, such money can and should do one very important thing. It can expand the opportunity for residents to study medicine and dentistry by assuring that no *qualified* student shall be denied a career in these vital fields because he lacks funds. What we're really talking about here is the conservation of human talent. A State as aware as Maine of the importance of conserving *natural* resources will surely perceive the even greater importance of conserving human resources.

KEVIN P. BUNNELL  
Acting Executive Secretary  
New England Board of Higher Education  
Winchester, Massachusetts

Dear Doctor Hanley:

It was my understanding that this money was appropriated by a previous Legislature for \$2,500/yr. payment for each student over a certain quota. Since this is a problem specifically with Vermont, I should think that a similar arrangement should be worked out between Maine and Vermont as Massachusetts has.

I agree we should support the bill to provide medical students at least the same advantages of other graduate students in the Tri-State Area.

Portland, Maine

PHILIP P. THOMPSON, JR., M.D.

Dear Doctor Hanley:

The letter you have received from Mr. Dooley, representing the Maine students in The University of Vermont Medical School, is most timely.

Many people are alarmed at the small number of young people from Maine who are entering the medical profession. The proposal being advanced by The University of Vermont should be of assistance in increasing this number and has met with the approval of the three Maine members of the New England Board of Higher Education. You will recall that the New England Board's earlier plan did not increase the number of medical students and has been withdrawn. This one, with very real assistance for both The University and the individual student, should be of considerable value.

The University of Vermont proposes to contract with the various New England states to provide a certain number of places for students in the medical school. The contracting state will pay the University \$2,500 for each student so enrolled. The University will, on its part, charge students covered under such a plan in-state rather than out-of-state tuition. This will be of considerable help to the students as in-state tuition is \$550 and out-of-state \$1,500.

It is my understanding that both Massachusetts and Rhode Island have already contracted for places for their students. It is to be hoped that Maine will be able to take similar action. The appropriation requested of the Legislature would make this possible.

The budget request of the State Department of Education to the Legislature includes provision for 15 places at The University of Vermont for Maine students in the first year of the biennium and 20 the second. I believe Maine will benefit greatly if these funds are made available. There is no way of knowing at this time, however, what action the Legislature will take in this regard.

WARREN G. HILL  
Augusta, Maine      State of Maine Commissioner of Education

Dear Doctor Hanley:

I have read the letter from the group of medical students at the University of Vermont with interest.

If there are any inequities in the New England Educational Compact, particularly regarding payment of medical tuition, etc., it would be proper to investigate it thoroughly and try to rectify it. This would take time and effort.

I doubt if starting at this late date one could get legislation through this coming session in January.

Bangor, Maine

ALLAN WOODCOCK, M.D.

Dear Doctor Hanley:

The letter you received from Mr. J. R. Dooley representing the Maine Resident Medical students at the University of Vermont Medical School again brings to our attention the problem of the diminishing number of Maine residents who are studying medicine. This problem has confronted the Committee on Medical Education for the Maine Medical Association for some time.

In view of the fact that it is true that there is a diminishing number of medical students from the State of Maine and that the State of Maine does not in any way financially support a Medical School in the State of Maine at this time, it would seem quite logical in lieu of this, that the state could or should in some way subsidize students who wish to study medicine in other New England colleges of medicine or that the benefits of the reciprocal plan as described in Mr. Dooley's letter should apply to medical students as well as those who seek a career in the pulp and paper industry for instance.

Therefore, I would recommend that a copy of Mr. Dooley's letter plus a statement of policy and recommendations of the Medical Education Committee and also a recommendation of the Maine Medical Association concerning this matter be sent to every State Legislator and to Governor Reed.

I would also recommend that this same informational material be sent to each county medical society with a request that they transmit an expression of their beliefs in this matter to their local state representatives. It should also be emphasized that personal contact with state legislators by as many doctors as possible would also be helpful. This matter should also be pursued at the next Legislative session in Augusta.

It would perhaps also be desirable to send similar copies of informational material to various newspaper editors in the State of Maine for publication in their letters to editor section.

Portland, Maine

CHARLES W. CAPRON, M.D.

Dear Doctor Hanley:

I was very interested in reading Mr. Dooley's letter and considered it very apropos since the Maine Medical Association, at their June meeting of 1960, at the House of Delegates Meeting, had a very thorough discussion of the problem of providing more doctors for the State of Maine and in a plan to interest more young men and woman to enter the profession of Medicine. It had also been my impression that the States of Maine, New Hampshire and Vermont had entered a Tri-State agreement as mentioned in his letter of December 2, 1960. I then heard that New Hampshire had backed out on the agreement, which rather antagonized the Administration at the University of Vermont, and it was my feeling that the agreement had fallen through. I also understood that our Maine State Legislature had taken similar action to that of the State of Massachusetts in regard to our students interested in medical education. However, that may be just my own interpretation and apparently from this letter from Vermont, is not an actual fact.

Recently in the State Legislature of Massachusetts the pro-

*Continued on Page 40*

## COUNTY SOCIETIES

## ANDROSCOGGIN

President, Waldo A. Clapp, M.D., Lewiston  
Secretary, Donald L. Anderson, M.D., Lewiston

## AROOSTOOK

President, Frederick J. Gregory, M.D., Caribou  
Secretary, Clyde I. Swett, M.D., Island Falls

## CUMBERLAND

President, Robinson L. Bidwell, M.D., Portland  
Secretary, Albert Aranson, M.D., Portland

## FRANKLIN

President, Herbert M. Zikel, M.D., Wilton  
Secretary, Philip B. Chase, M.D., Farmington

## HANCOCK

President, Charles H. Knickerbocker, M.D., Bar Harbor  
Secretary, Russell G. Williamson, M.D., Blue Hill

## KENNEBEC

President, Philip Dachslager, M.D., Augusta  
Secretary, Earle M. Davis, M.D., Waterville

## KNOX

President, Richard Waterman, M.D., Waldoboro  
Secretary, John A. Root, M.D., Rockland

## LINCOLN-SAGADAHOC

President, George W. Bostwick, M.D., Newcastle  
Secretary, Richard I. Clark, M.D., Bath

## OXFORD

President, George W. Miller, M.D., Norway  
Secretary, Albert P. Royal, Jr., M.D., Rumford

## PENOBSCOT

President, Albert C. Todd, M.D., Brewer  
Secretary, Philip B. Thomas, M.D., Bangor

## PISCATAQUIS

President, Odd S. Nielsen, M.D., Dexter  
Secretary, Isaac Nelson, M.D., Greenville

## SOMERSET

President, Albert Bernard, M.D., Skowhegan  
Secretary, Harland G. Turner, M.D., Norridgewock

## WALDO

President, Ward A. Albro, M.D., Belfast  
Secretary-Treasurer, Seth H. Read, M.D., Belfast

## WASHINGTON

President, Rowland B. French, M.D., Eastport  
Secretary, Karl V. Larson, M.D., East Machias

## YORK

President, Kenneth E. Leigh, M.D., York  
Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## CUMBERLAND

December 15, 1960

The annual meeting of the Cumberland County Medical Society was held on December 15, 1960 at Valle's Steak House in Portland, Maine.

Forty-five members were present at the meeting which was called to order by the President, Dr. Donald F. Marshall, following a social hour and dinner. The minutes of the previous meeting were read and approved. Dr. Louis A. Ciampi, of Gray, Maine, was elected to membership.

The report of the Public Relations and Grievance Committee were read by the Chairman, Dr. Philip S. Fogg, Jr., and is appended to these minutes. Dr. William C. Burrage reported for the Committee on Aging that a room had been set aside for the elderly citizens in the Chamber of Commerce Building in Portland.

The annual report of the Secretary was read. This consisted of a number of suggestions for future activities of this society. It was moved and passed that a resume of these suggestions to be sent to each member of the society for discussion at future meetings.

Dr. Donald F. Marshall reported on progress made in the society in the past year and recommended additional spheres of activity for the future.

The following slate of officers was elected for the coming year:

President, Robinson L. Bidwell, M.D., Portland  
Vice-President, Barron F. McIntire, Jr., M.D., Yarmouth  
Secretary-Treasurer, Albert Aranson, M.D., Portland  
Public Relations Committee: C. Philip Lape, M.D., Portland, Chairman; Warren C. Baldwin, M.D., Portland; Norman E. Dyhrberg, M.D., Cumberland Mills  
Delegates to the Maine Medical Association House of Delegates for two years: Philip S. Fogg, Jr., M.D., Portland; Morrill Shapiro, M.D., Portland; David S. Wyman, M.D., Portland; Benjamin Zolov, M.D., Portland.  
Alternates for two years: Donald E. Allen, M.D., Sebago Lake; Eben T. Bennet, M.D., Portland; Louis G. Bove, M.D., Portland; Maurice Van Lonkhuyzen, M.D., Portland. Alternate for one year: George O. Chase, M.D., Portland (to replace Arthur R. Clemett, M.D. who has transferred to Connecticut)

In accepting the Presidency Dr. Robinson L. Bidwell gave a very timely and lucid discussion of the problems that medicine faces, both at the present and in the future. A very realistic picture was painted of the difficulties which lie ahead both in relation to increasing government control, as well as physician-patient relationship. He suggested that since we cannot completely control our environment that we attempt to adapt to it.

Dr. Philip P. Thompson, Jr., State Delegate to the A.M.A., reported on the program outlined by that body at its last interim meeting at Washington. A vastly expanded program is planned which will require an increase in dues of \$10.00 in 1962 and \$10.00 more in 1963.

Dr. Benjamin Zolov suggested that members should learn something about parliamentary procedure in order to give each member sufficient time to express his opinions without infringing on other members privileges.

The meeting adjourned at 9:50 p.m.

ALBERT ARANSON, M.D.  
Secretary



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## HANCOCK

December 14, 1960

The annual meeting of the Hancock County Medical Society was held in Ellsworth, Maine on December 14, 1960. The following members were present: Drs. Raymond E. Weymouth, Llewellyn W. Cooper, Bradley E. Brownlow, Arthur M. Joost, Jr., Ernest L. Coffin, Silas A. Coffin, Elizabeth E. Williamson, W. Edward Thegen, Philip L. Gray, Herbert T. Wilbur, Jr. and Russell G. Williamson.

The following officers were elected for the ensuing year: President, Charles H. Knickerbocker, M.D., Bar Harbor Vice-President, Ernest L. Coffin, M.D., Northeast Harbor Secretary-Treasurer, Russell G. Williamson, M.D., Blue Hill

Delegates to the Maine Medical Association House of Delegates: James H. Crowe, M.D., Ellsworth and Herbert T. Wilbur, Jr., M.D., Southwest Harbor. Alternates: Philip L. Gray, M.D., Blue Hill and Elizabeth E. Williamson, M.D., Blue Hill

Censor: Arthur M. Joost, Jr., M.D., Bucksport, Chairman; Elizabeth E. Williamson, M.D., Blue Hill (2 yrs.) and Bradley E. Brownlow, M.D., Blue Hill (3 yrs.)

The meeting was adjourned by the retiring President, Dr. Llewellyn W. Cooper.

RUSSELL G. WILLIAMSON, M.D.  
*Secretary*

## KENNEBEC

December 8, 1960

A meeting of the Kennebec County Association was held at the Augusta State Hospital, Augusta, Maine on December 8, 1960.

Dr. William E. Schumacher was elected unanimously to membership.

The following officers were elected for the coming year:

President, Philip Dachslager, M.D., Augusta  
Vice-President, Loring W. Pratt, M.D., Waterville  
Secretary-Treasurer, Earle M. Davis, M.D., Waterville  
Councilors, Brinton T. Darlington, M.D., Augusta, George J. Robertson, M.D., Waterville and Hugh J. Mathews, Jr., M.D., Gardiner

Dr. Frederick T. Hill, of Waterville, made a motion for commendation of Dr. Arch H. Morrell of Augusta for his outstanding work as Secretary-Treasurer of the county association for many years. This was passed unanimously and will be carried out at the next meeting.

Dr. John F. Reynolds, of Waterville, retired as President and turned the association over to Dr. Philip Dachslager.

The next meeting of the association is to be held at the Senator Motel in Augusta on the 19th of January at 7:00 p.m. at which time Dr. John Byrne of Augusta is going to speak on "Some Aspects of Acute Cholecystitis."

EARLE M. DAVIS, M.D.  
*Secretary-Treasurer*

## LINCOLN-SAGADAHOC

December 20, 1960

A regular monthly meeting of the Lincoln-Sagadahoc County Medical Society was held on December 20 at The Ledges, Wiscasset, Maine.

The President, Dr. John F. Andrews, presided. The following slate of officers was elected for the coming year:

President, George W. Bostwick, M.D., Newcastle

Vice-President, Hamdi Akar, M.D., Bath

Secretary, Richard I. Clark, M.D., Bath

Delegates to the Maine Medical Association House of

Delegates: John F. Andrews, M.D., Boothbay Harbor

and Ralph C. Powell, M.D., Damariscotta. Alternates: Edward L. Kinder, Jr., M.D., Bath and Deane

L. Hutchins, M.D., Boothbay Harbor

B. G. Clark, M.D., of Boston, discussed "Hematuria."

GEORGE W. BOSTWICK, M.D.  
*Secretary pro tem*

## WASHINGTON

November 18, 1960

The annual meeting of the Washington County Medical Society was held on November 18, 1960 at the Congregational Vestry, East Machias, Maine with twenty-one members and guests present.

Rowland B. French, M.D., of Eastport, Maine, Vice-President of the society, presided at the meeting. A short business meeting was held with the following officers elected:

President, Rowland B. French, M.D., Eastport

Vice-President, Leslie W. Brownrigg, M.D., St. Stephen, New Brunswick

Secretary-Treasurer, Karl V. Larson, M.D., East Machias

Delegate to the Maine Medical Association House of

Delegates: Samuel R. Webber, M.D., Calais. Alternates: Hazen C. Mitchell, M.D., Calais

Board of Censors: DeCosta F. Benner, M.D., Lubec (3 yrs.) and William C. Rice, M.D., Milltown, New Brunswick (2 yrs.)

Dr. French introduced Dr. Albert L. Babcock of Bangor, Maine who spoke on "Acute Appendicitis, Its Decreasing Incidence." Participating in the discussion were Drs. Edwin Johnston of St. Stephen, New Brunswick and Samuel R. Webber of Calais, Maine.

KARL V. LARSON, M.D.  
*Secretary*

## New Members

## AROOSTOOK

Benoit Ouellette, M.D., Fort Kent

## CUMBERLAND

Louis A. Ciampi, M.D., Gray

## KENNEBEC

Jen-Ti Chen, M.D., 24 Glen Avenue, Waterville

Lane Giddings, M.D., 6 East Chestnut Street, Augusta

William E. Schumacher, M.D., Room 700, State Office Building, Augusta

Donald J. Winslow, M.D., Sisters Hospital, Waterville

## KNOX

William W. Ward, M.D., 76 Limerock Street, Rockland

## WASHINGTON

John W. McAllister, M.D., 39 Water Street, Lubec



## News and Notes

### Dr. Steele Receives Pfizer Merit Award



Dr. Charles W. Steele, of Lewiston, Maine, was awarded the Pfizer Award of Merit at the 9th Annual Conference of the United States Civil Defense Council in Minneapolis, Minnesota in September, 1960. The citation reads: "Be it known that Charles W. Steele, M.D. Has been cited for Meritorious Service to the people of the United States and the Medical-Health professions for his endeavor in the interest of Civil Defense, Disaster Medical Care, Radiological, Biological and Chemical Non-Military Defense and Mass Casualty Care, and in recognition thereof is awarded this Certificate of Merit with Key, established by Chas. Pfizer & Co., Inc."

Dr. Steele has been active in the following Civil Defense programs: Chairman, Committee on Civil Defense and Committee on Disaster Medical Care of Maine Medical Association since 1948; Member, Committee on Civil Defense, American Medical Association, since 1955; Consultant to Health Mobilization Division of U. S. Public Health Service, Department of Health, Education and Welfare; Special Advisor to Director, Civil Defense and Public Safety Agency, State of Maine; Liaison Representatives from American Med-

ical Association's Committee on Disaster Medical Care to Committee on Civil Defense of the American Chemical Society; State Deputy Director Number 3 in charge of Medical Care, Public Health and Special Weapons defense of State of Maine Civil Defense and Public Safety Agency, 1949-56.

He was recently elected to active membership in the Society of Medical Consultants to the Armed Forces.

### Medical Leaders In Voluntary Health Organizations Fighting TB And Respiratory Diseases



From left to right: C. Harold Jameson, M.D., Camden, reelected president of the Maine Tuberculosis and Health Association; William L. MacVane, Jr., M.D., Portland, retiring president of Maine Thoracic Society and new member of TB and Health Association board of directors; Dr. Brington T. Darlington, Augusta, president elect of the Maine TB and Health Association; David Davidson, M.D., Portland, newly elected vice president of the Maine Thoracic Society. Dr. George I. Wilson, Houlton, is president of the Maine Thoracic Society and is missing from the picture. The picture was taken during the recent joint annual meetings of the two organizations.

## Announcements

### Poison Information Center For The State Of Maine

Through the cooperation of the Maine Medical Association, the State of Maine Department of Health and Welfare, and the Veterans Administration, a Poison Information Center operating twenty-four hours a day has been established at the Veterans Administration Center, Togus, Maine. The establishment of this Center was approved by the House of Delegates of the Maine Medical Association on June 19, 1960. The

Center will be under the direction of Dr. Robert L. Ohler, Chief of Medical Service of the General Hospital at Togus.

In the event of accidental poisoning where knowledge of the composition, toxic effects or the treatment is not immediately available, physicians may call the Veterans Administration Center, Togus, at any time during the twenty-four hours.

In placing calls for poison information, the physician should call Augusta MAYfair 3-8411 and ask for the Poison Information Center.

**State of Maine Board of Registration of Medicine**  
**Secretary — Daniel F. Hanley, M.D.,**  
**Brunswick, Maine**

**Physicians Licensed to Practice Medicine and**  
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**November 1-3, 1960**

**THROUGH EXAMINATION**

Horst M. Berger, M.D., 18 Joy Street, Boston, Massachusetts  
 Jose Castellanos, M.D., P. O. Box 724, Augusta, Maine  
 Mieczyslaw Cegielski, M.D., 3853A Wisconsin Avenue, St. Louis, Missouri  
 Peter N. Constantinidis, M.D., The Springfield Hospital, Springfield, Massachusetts  
 Armando G. Di Biasio, M.D., 52 South Gate, Dedham, Massachusetts  
 Edward A. Greco, Jr., M.D., 207 Ocean House Road, Cape Elizabeth, Maine  
 Magdolna A. Iranyi, M.D., 2622 N. Van Dorn Street, Alexandria, Virginia  
 Richard W. Jarecki, M.D., 905 Bergh Street, Asbury, New Jersey  
 Leonidas B. Kudisch, M.D., 290 Leonard Avenue, Washington, Pennsylvania  
 Horacio A. Lichter, M.D., 326 Main Street, Lewiston, Maine  
 Preston A. McLean, M.D., 393 State Street, Bangor, Maine  
 Thomas J. O'Beirne, M.D., Ellis Hospital, Schenectady, New York  
 George Papadopoulos, M.D., P. O. Box 351, Middletown, Connecticut  
 Altagracia H. Polanco, M.D., 7112 Boulevard East, North Bergen, New Jersey  
 Michael C. Randon, M.D., 5 Glenburn Court, New Brunswick, Canada

Nasser Sabokbar, M.D., 231 Seward Place, Schenectady, New York  
 Israel Schlain, M.D., 70 S. 22nd Street, Pittsburgh 3, Pennsylvania  
 Reuven Tizes, M.D., 82-68-164th Street, Jamaica, New York  
 Willem Van Pelt, M.D., 119 Belmont Street, Worcester, Massachusetts

**THROUGH RECIPROCITY**

Merle S. Bacastow, 22 Bramhall Street, Portland, Maine  
 James J. Brod, M.D., 914 Pine Street, Philadelphia, Pennsylvania  
 Julio N. Coelho, M.D., State T.B. Hospital, Louisville 15, Kentucky  
 Alexander M. De la Garza, M.D., 3501 Johnson Street, Hollywood, Florida  
 Joseph C. Denniston, M.D., McDowell Memorial Hospital, McDowell, Kentucky  
 George L. Emerson, M.D., 11 Rochester Street, Scottsville, New York  
 Marion S. Emerson, M.D., 11 Rochester Street, Scottsville, New York  
 Storer W. Emmett, M.D., 173 Centre Street, Old Town, Maine  
 Robert S. Galen, M.D., 66 East 3rd North, Provo, Utah  
 Willard S. Gamble, Jr., Two Lights Road, Cape Elizabeth, Maine  
 Theodore S. Golden, M.D., 250 Franklin Street, Framingham, Massachusetts  
 Jose G. Heredia, M.D., 62 Elm Street, Glens Falls, New York  
 Robert F. Hinckley, M.D., 7 Whittier Street, Brunswick, Maine  
 Cesare Luccioli, M.D., 77 Central Avenue, Newark, New Jersey  
 Robert Masters, M.D., 62 Revere Street, Revere, Massachusetts  
 John D. McIntyre, M.D., 1255 Revercomb Place, British Columbia, Canada  
 Nina Rubins, M.D., 70 Quinlan Avenue, Staten Island, New York

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William E. Schumacher, M.D., Director, Bureau of Mental Health, Augusta, Maine  
 Charles M. Smith, M.D., Dixfield, Maine  
 Robert M. Zollinger, Jr., M.D., 721 Huntington Avenue, Boston, Massachusetts

**Department Of Health And Welfare  
 Division Of Maternal And Child Health  
 Including Services For Crippled Children**

**Orthopedic Clinics**

Portland — Maine Medical Center  
 9:00 a.m.: Jan. 9, Feb. 13, Mar. 13  
 Lewiston — Central Maine General Hospital  
 9:00 a.m.: Jan. 20, Feb. 17, Mar. 17  
 Rumford — Community Hospital  
 1:30 p.m.: Mar. 15  
 Waterville — Thayer Hospital  
 1:30 p.m.: Feb. 23  
 Rockland — Knox County Hospital  
 1:30 p.m.: Feb. 16  
 Machias — Washington County Normal School  
 1:30 p.m.: Jan. 18  
 Presque Isle — Northern Maine Sanatorium  
 9:00 a.m. and 12:30 p.m.: Jan. 10, Mar. 8  
 Houlton — Aroostook General Hospital  
 9:00 a.m.: Mar. 7  
 Fort Kent — Peoples Benevolent Hospital  
 10:00 a.m.: Jan. 11

Bangor — Eastern Maine General Hospital  
 1:00 p.m.: Jan. 26, Mar. 23  
 (Several will be two-session clinics)

**Cardiac Clinics**

Portland — Maine Medical Center  
 9:00 a.m.: Every Friday (Holidays Excepted)  
 Bangor — Eastern Maine General Hospital  
 9:00 a.m.: Jan. 13, 27, Feb. 10, 24, Mar. 10, 24

**Cleft Palate Evaluation Clinics**

Portland — Maine Medical Center  
 10:00 a.m.: Feb. 14

**Pediatric Clinics**

Bangor — Eastern Maine General Hospital  
 1:30 p.m.: Jan. 27, Feb. 24, Mar. 24  
 Fort Kent — Peoples Benevolent Hospital  
 10:00 a.m.: Mar. 22  
 Presque Isle — Northern Maine Sanatorium  
 1:30 p.m.: Jan. 25  
 Waterville — Thayer Hospital  
 1:30 p.m.: Jan. 3, Feb. 7, Mar. 7

**Clinics For Mentally Retarded  
 Pre-School Children**

Waterville — Thayer Hospital  
 9:00 a.m.: Jan. 4, 18, Feb. 1, 15, Mar. 1, 15, 29

**Adolescent Clinics**

Portland — Maine Medical Center  
 1:00 p.m.: Jan. 25, Feb. 15, Mar. 22

**BLUE CROSS AND OTHER INSURANCES ARE ACCEPTED**



**ANDREW FERGUS, M.D.**  
 Diplomate, American Board of Psychiatry  
 Psychiatrist in charge  
**PHILIP BLINDER, M.D.**  
 Associate Psychiatrist in charge  
**CARL J. HEDIN, M.D.**  
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LETTERS TO THE EDITOR — *Continued from Page 33*

posals to start a State of Massachusetts Medical School was passed in the House but defeated in the Senate. Apparently Massachusetts is doing the next best thing by subsidizing their medical students who are studying in universities outside the state. This appears to be borne out by the letter from Mr. Dooley. I am sure that every practicing physician in the State of Maine is acutely aware of the problem of educating medical students and I feel that any action taken at the legislative level should come through the Maine Medical Association and its duly elected officers and committees.

In closing, I think this young man, Mr. John R. Dooley, who happens to be a Portland resident and the son of a very excellent physician, is to be commended for his interest in this problem which has been with the Medical Association of Maine for a long time.

Portland, Maine

THOMAS A. MARTIN, M.D.

Dear Doctor Hanley:

I am very interested in the letter written by a representative of the Medical Students at the University of Vermont. I am in complete sympathy with the thought as expressed by this letter. As a graduate of the University of Vermont, and having a son who also graduated from there, I feel that the type of training offered by this institution is second to none.

Because of the contract entered into by Maine, New Hampshire and Vermont, the details of which I need not go into here, I believe that the State of Maine, through its Legislature should see that some financial provision is made so that a Maine student could attend the University Medical School for the same tuition that a Vermont student pays.

As we are all aware the problem of too few Maine students attending medical schools is a serious one and the above arrangement would help, to a small degree, the easing of the financial burden our medical students of today have to face.

Orono, Maine

ASA C. ADAMS, M.D.

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# The Journal of the Maine Medical Association

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Brunswick, Maine, February, 1961

No. 2

## Education For The Practicing Physician In A Hospital Without House Officers

GEORGE J. ROBERTSON, M.D.\*

There has been a growing interest in post graduate medical education for the practicing physician in recent years. Factors stimulating the physician have been: the rapid advances in medical science, the emergence of the hospital as a focus for community medical care, the improved standards of care requested by the commission on accreditation of hospitals, and other multiple factors culminating in the realization by every conscientious physician that he is soon lacking essential knowledge if he is not in contact with an active teaching program.

Since World War II, medical schools and their hospital centers have been directing increased attention to post graduate medical education and in such states as Connecticut have even given post graduate courses in hospitals throughout the state, thus reaching the physician who will not or cannot travel to medical centers. Hospitals having interne and resident staffs have naturally lent themselves most easily to an educational program.

The small hospital without house officers has apparently had difficulty in developing educational programs. Dr. Arthur Ebbert, Jr., after considerable experience in programming in Connecticut, states, "Also, our experience has shown that a hospital of less than 100 to 150 beds has difficulty in getting sufficient staff participation to make such an activity practical."<sup>1</sup>

Thayer is a 100 bed hospital in Waterville, Maine, a

community of 18,500. There are 35 physicians on the staff. The hospital consists of an acute wing of 65 beds and a chronic disease and rehabilitation wing of 35 beds. The hospital has from its origin in 1931 been fortunate in having as its medical director, Dr. Frederick T. Hill, an otolaryngologist with a dedicated interest in methods of improving patient care. He did early work in the field of medical staff audit and inaugurated the weekly staff meeting at Thayer. Attendance of the staff is required at this meeting. On the weekend prior to each Thursday evening staff meeting the medical director selects about ten cases for presentation. Any case in the house might be selected, simple or complex. Each Monday the program is on the bulletin board. Here is a representative program:

Staff Meeting Thursday, January 22, 1959 7:30 P.M.  
Program

1. Peyronie's Disease ..... Dr. E. M. Davis
2. Pregnancy — Diabetes — Insulin Reaction  
..... Dr. E. M. Southern
3. Cholelithiasis ..... Dr. J. Bolduc
4. Carcinoma, Rectum ..... Dr. A. H. McQuillan
5. (a) Carcinoma, Sigmoid  
(b) Metastatic Carcinoma, ? Primary Site  
..... Dr. J. F. Reynolds
6. (a) Pulmonary Cyst  
(b) Intestinal Obstruction  
(c) Carcinoma, Liver ..... Dr. H. R. Hornberger

\*Chairman, Postgraduate Education Committee, Thayer Hospital, Waterville, Maine.





following services had been available? Yes .....  
 No .....  
 Medical care not available .....; visiting nurse  
 .....; homemaker service .....; adequate nursing  
 home .....; adequate transportation .....; visiting  
 physiotherapist .....; other .....

VI. What added services within the hospital might shorten stay or help prevent recurrent admissions? None .....

Patient education .....; family education .....; conditioning exercises .....; physical rehabilitation .....; psychiatry .....; social service .....; training in activities of daily living .....; occupational therapy .....; provision of braces or prostheses .....; vocational rehabilitation .....

VII. Do you wish a consult in any of the above services presently available?"

With this and other surveys we hope to point out needed facilities for the comprehensive care program which we envision for our community.

Two years ago Thayer was host to a general practitioners' meeting at which a lecture was given by Dr. Escher of Sloan-Kettering Institute. Following this the tumor board of the hospital demonstrated such interest to the speaker that Thayer is now associated with Sloan-Kettering as a clinical research arm in the field of cancer chemotherapy. This too has been a valuable stimulation to the teaching program. The tumor board now holds a weekly Friday noon meeting aside from its usual clinic. The individual staff physicians are invited to

present tumor cases here. Tumor board physicians are taking educational courses at Memorial Hospital, New York, and applying their knowledge to our own case material.

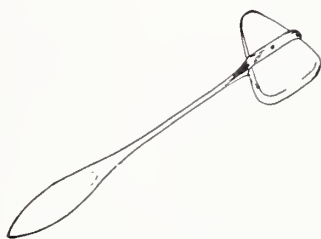
#### SUMMARY

A teaching program is possible in every hospital. Discussion of case material is the basis for such a program. Ivory tower speakers are best exploited by presenting case material to them. The busy practitioner in listening to a Dr. Weinstein lecture on infectious diseases will when questioned three days later recall perhaps a third of the lecture accurately. Three months later vague generalities will remain. Have the same doctor present one of his own patients with, say, *Staphylococcus pneumonia* to a Dr. Weinstein, and three months later that small community staff physician still knows in detail all about *Staphylococcus pneumonia* and never forgets it. The evolution of the Thayer Hospital post graduate medical educational program is described.

#### REFERENCES

1. Ebbert, A., Jr.: Education for the Practicing Physician; The Postgraduate Program at Yale. *Connecticut Medicine*, XXIV: 560.
2. Babcock, K. B.: Medical Staff Education and the Joint Commission on Accreditation of Hospitals. New England Hospital Assembly, Boston, Massachusetts, March 24, 1959.

33 College Avenue, Waterville, Maine



# Personality Factors In School Drop-Outs

PRICE A. KIRKPATRICK, M.D.\*

There is a serious rate of attrition among the student population in our educational system. The generally accepted rate of loss is approximately one-half of the grade school students, one-half of the potential high school graduates, and about half of those who might start college stay to completion. According to Dr. John C. Cass, Director of the Division of Education for the State of Maine, the graduating high school class for the State in 1959 contained only 59.5% of those students that started 9th grade.

The loss of a student from college is a most serious matter for the student, his family, and our society. Many American homes face the unhappy experience of having a son or daughter home for the Thanksgiving or Christmas school vacation never to return to college again. The experience for the individual so involved leaves long lasting psychological scars. The insult and tragedy furthermore tends to insinuate itself in profound ways upon the family itself.

If these students lost to education, the drop-outs, represented those that lacked the native intellectual aptitude for the studies, we might say, "for shame . . ." and need point no finger at our educational system, our society, or the individual for the loss. But the fact remains, however, that by adolescence, lack of intellectual endowment is not the major cause of dropping out of school.

School drop-outs in high school and college years revolve upon such factors as the level of personal motivation, the "climate" of interest and support for education found in the school and home, and the emotional maturity of the student. Sometimes, situational stresses or specific crises such as illness, death in the family, or financial deprivation enmesh the youth and destroy the ability of the student to successfully pursue his education.

While intelligence tests are the standard yardstick to judge learning ability, the same emotional or motivational disturbances which wreck school performance, may grossly distort the performance of the student on an intelligence test. Reliable and well accepted tests of motivation to learn, unfortunately have yet to be constructed. While grade performance is a crude yardstick of readiness and ability to learn, it is a yardstick which well could be improved upon. Einstein, it is said, flunked his Algebra.

The enormous loss of potential students from our educational institutions is costly in many ways. There is a close correlation, for example, between the number of years of education undergone and the life-

time earnings of the individual. This positive correlation increases as our society becomes more mobile, has better access to mass media of communication, and as technological advances continue.

The experience of dropping out of school is costly with respect to its emotional impact. The experience of failure is always costly. Apologetic and defensive answers are given to the question "Why did you leave school?" for unnumbered years. Those, that if they had their way, would "do it over again" . . . are unnumbered.

School failures are also costly to the institutions of education themselves. There is no way to cost-account the amount of professional time taken by a college, for example, to process applications to find qualified students; the amount of time consumed by devoting unusual attention to the failing student; the amount of time given to counseling; or the wastes in residential planning colleges assume when there is a variable loss in their student population.

Perhaps our main concern for the waste or the cost should be in regard to our society itself. Education brings to the child the possibility of greater economic security, greater self-realization, and a familiarity with worlds quite beyond his immediate horizon of experience. As it brings this to youth, it brings all of these by summation to our society. The Soviets are investing a great deal of their economy, perhaps proportionately more than we, on this belief. Considering this, the loss of students from the mainstream of education places the cost to ourselves in still another light.

Adolescence is a difficult voyage. It is a time of strong strivings for independence from family, of awakening and experimental sexuality, and of finding realistic life-goals. When teen-agers are "lazy," anti-social, or "hate" school, it is for due cause, and not because they are "born that way."

The Bureau of Child Guidance of New York City is an integral part of the public school system. It deals with an enormous case load; the largest group of which is the stay-at-home child, suffering from "school phobia." It is the author's experience that few drop-outs are ascribable to a true "school phobia," but are attributable to other emotional or adjustment problems.

The unduly dependent child who has an overly anxious mother (or either parent, for that matter) may keep the child at home for minor physical symptoms, or may unconsciously encourage withdrawal of the child from the competitive and striving environment of the school. The egocentric adolescent who has a personal crisis in adjustment with his peers may withdraw or give up desire for good performance. The

\*Thayer Hospital, Waterville, Maine



lonely, exhibitionistic, recalcitrant, and unhappy child may be discriminated against by teachers for his behavior and be "thrown out" for reasons having little to do with intelligence. The unduly "day-dreaming" child, poorly attentive to black-boards and examination situations, may achieve very poor marks quite at variance from his potential. The adolescent who comes upon a "first love" and all the fantasizing attending it, may have his entire drive toward good school performance diverted — and become an academic failure. The adolescent who carries too much guilt or too much concern for reality problems in his home environment — may become the drop out.

The above examples are of emotionally rooted failures — not failures of intelligence or performance potential.

With regard to the types of emotional problems or expressions of immaturity that lead to school drop-outs, experience with such children shows that the underlying problem in the adolescent often represents a recapitulation of one or both parent's own personality problems, their own problems in dealing with a competitive, aspiring, work situation within an authoritarian system (the school). Or on the other hand, it often is a resultant of the absence of any consistent value system of the parents which places responsibility and achievement in significant regard. In the former group are those children of fearful parent or parents that have life patterns of negativism or withdrawal in the face of demands for achievement. In the latter group are those drop-out children that have either been children from a home where learning and "getting ahead" have had no particular significance or where it has been literally fragmented.

It is the author's experience during a short period of observation in Maine that this area has a high number of children of fragmented homes, or children whose homes have not placed any particular esteem on the meaning and worth of education. Middle-class American values, so pervasive throughout the country, hold self-striving and learning important to success and happiness. These values seem in short supply in a State whose history is steeped in major contributions toward such success. It is true that the antique values placed self-learning as the supreme value — as it still is — but the modern world demands an extended apprenticeship with school books rather than in the forest, the ship, or with books of trade.

Below are presented some extremely condensed case histories of school drop-outs and one example of a "would be" drop-out.\*

1. A 15 year old attractive and intelligent high school student became almost completely socially withdrawn. She has gone to school 4½ days in the last two years. She has had many absences ostensibly for illness during

grade-school. Her mother can work but a half-day, then must go to bed for 2 or 3. She is an only child. The mother sympathizes beyond measure with every ill-feeling her daughter has. The mother fears her daughter to be alone — even remarked when being examined by the physician, "that is the longest time I have left my daughter alone. . . ." The girl has had much medical attention, at-home teachers, two minor operations. Her self-concept is one of being "sick." She was referred for evaluation for lack of any significant medical findings after being dealt with as "sick" for many years. There is no gross mental illness. To both parents, the meaning of continued high school may be stated in these terms: "We would like her to be like other girls — but she is afraid, so we won't let her. . ."

2. An 18 year old college student of very superior intelligence left college. He felt estranged and different — intellectually far superior to, socially inferior to his contemporaries. He developed a rationalized defense against school demands on his intellectuality. He sought out Zen Buddhism, poetry, and religious mysticism. His fantasy life was of being the "poet in the wilderness," or, on the other hand, (and quite balanced for his age and personal problems) of highly idealized romantic love. Failing to find satisfactory relationships with girls or in becoming a successful poet in a hurry, he left school in confusion and abandoned meaningful and realistic goals. (His parents place high valuation on education). His earlier experiences had not provided sufficient ego support for his special talents nor an environment (nor did his college) for sufficient interchange with the opposite sex.

3. A 16 year old girl, in high school with good grades, better than average social popularity, and from a well integrated home — left school "on her own." She was depressed, uncommunicative, and hostile to parental direction when first seen. She was pre-occupied with "nothing is worth-while," "you can't make me do anything," etc. She was basically quite inhibited and naive for her age. Various sources of evidence revealed she had become attached to an erotic, very talkative girl-friend not of her intellectual or cultural level. Through her friend she met a young married man, undoubtedly in some confusion himself. A very brief encounter followed for which the girl was not at all prepared — knowledge-wise, emotionally, or morally. Fantasies, friendships, values, sex, growing to womanly maturity, etc., became scattered to the winds — at least in her self-perceptions. Alternately, she hated herself, the "guy," her parents, her inability to express any of the problem with anyone (including the therapist). She began to doubt her ability to be a "normal" girl again. Her personality change was sweeping and school (concentration and motivation) became impossible. As yet, she is still lost to normal channels of education.

4. A 16 year old boy, tested to reveal an IQ considerably above average. He has a long history of medical and surgical attention to his eyes that made his health

\*A few superficial details are changed to preserve confidentiality of the subjects (patients).

central to the family concern. He has 5 siblings, he being the oldest. The father was kindly and well-meaning but for personal problems was unable to play his family role for some years. Neither parent went beyond HS education. Mother values education very highly; the father says to his child — "You could make it (success and security) the way I did"; i.e., by schooled diligence and native wit. The boy has been a parental discipline problem for several years because of his demanding attitudes at home. The youth exhibits considerable self-centeredness. He has poor ability to stay with a demanding task. He dislikes authority. He feels on the periphery of his peers, partly because of his medical history which limited his athletic, etc., development. He quit school electively — because in his words, "they wanted me to do the problems their way when I knew a short cut. . . ." (The father is in a successful business).

5. This 13 year old boy has not been "kicked out" of school because of psychiatric intervention. He has a long record of exhibitionistic, anti-teacher activity. He has been the proverbial "tease." He has antagonized most every teacher he has had and has the highest record in his school for disciplinary measures. He has a powerful facade of toughness. He has a poor home adjustment with his mother and is distant to his father who suffered at 40 a coronary. He is somewhat overweight, but is not the "fat-boy." Short observation showed him to be of good intelligence and quite aware of his own insecurity. On the second interview he wept (no other authority had seen such) over his feelings about being unloved. He asked to be put in the toughest class (academically, not punitively) and asked help as to how he might get his mother to understand him. Arrangements were made that he be put into the

most advanced academic section (with a strict teacher). His disruptive behavior became minimal. His handicaps of learning, accumulated as they were, have made him a poor but earnest student in this class. (And he has lost ten pounds of unwanted weight). His external cynicism and bellicosity have markedly diminished and his self-esteem climbed sharply.

#### SUMMARY

The attrition of students from our educational system is staggering and costly in many ways. The would-be student is denied material success and status his contemporary will find who remains in school. The drop-out either suffers a strong emotional blow by the experience, or drops out in the first instance because of some serious emotional problem. (Serious mental illness such as a Schizophrenic Reaction is infrequently a cause of school drop-outs). Our whole society loses because of this attrition.

Most drop-outs during the high school and college years are not for want of adequate intelligence, but more for reasons of lost motivation, personal psychological crises, or poor interpersonal adjustment. Economic factors of the student or his family also, of course, are frequently determinants for a student quitting his education.

Because of the frequency and seriousness of personality factors, emotional crisis, and deficient motivation determining school drop-outs, our educational institutions need use all the psychological and psychiatric advisory resources available. These institutions need such help at all levels; with regard to admission criteria, with regard to how to deal with the failing student, and for the student himself who is academically in trouble.





# The First Three Years Of A Clinic For Mentally Retarded Pre-School Children

ELIZABETH N. HASKELL, B.S.; DOROTHY L. WOODCOCK, B.S., M.S.; HELEN S. STREETER, B.S.;  
MARY C. MORTON, R.N.; NORMAN S. SMITH, B.S., Ed.M. and EDMUND N. ERVIN, M.D.\*

A clinic for mentally retarded pre-school children was opened at Thayer Hospital in March 1957. This service is offered by the Division of Maternal and Child Health and Crippled Children Services of the State Department of Health and Welfare; Dr. Ella Langer, Director. Funds are appropriated by the U. S. Children's Bureau, Department of Health, Education, and Welfare, Washington, D. C. This is a report on the activities of the clinic and contains data of the first three years of operation.

In response to an urgent need for services for mentally retarded children, the Congress of the United States allocated funds to the Children's Bureau for programs in the various states. The need for a comprehensive diagnostic and evaluation service for these children in Maine was urgent. The State Legislature in 1955 had passed an amendment to Law — Chapter 467, Sec. 1, R.S.C. 41, paragraphs 207A-207I providing subsidy for classes for educable mentally retarded children, those with an I.Q. between 50-75, under 21 years of age, through the Department of Education. There was no service providing diagnosis, counseling of parents regarding training and management, or treatment of associated handicaps. It was felt that such a service for the mentally retarded pre-school child was important at the earliest possible age to make and confirm a definitive diagnosis, to offer a constructive plan of management so that such children might develop to the fullest extent of their abilities, and to avoid the detrimental emotional consequences to both child and family of unwise and inept counseling. *Such a clinic was in keeping with the prevailing philosophy that when needed services are offered to the retarded living at home in the community the cost to the taxpayer is small, the child develops most fully, and the emotional stability of the family group may be preserved.*

*The organization of the clinic was in accord with the concept that the child with a handicap, particularly the mentally retarded, was more likely to be multiply handicapped. Such a clinic would need to involve the efforts of many disciplines if we were to offer worthwhile and comprehensive service.* In addition it could be the locus of a training program for professional personnel and should be an on-going educational effort for its own staff. Consequently the staff of the clinic

includes (1) Pediatrician as director; (2) Clinical Psychologist; (3) Psychiatric social worker; (4) Speech consultant; (5) Nutritionist; (6) Public health nurse, and (7) psychiatric and other medical consultative services. Laboratory and x-ray, home visits by the social worker and the public health nurse, hospitalization whenever necessary, as well as continuing speech therapy, case work, and psychotherapy whenever indicated, are also offered.

When the work-up is completed, the reports and impressions of the staff personnel are evaluated and interpreted for the parents in a counseling session. At this time the director of the clinic attempts to answer any questions and offer a plan of management which will lead to understanding and acceptance of the problem. Because we see these children at yearly intervals and because many of them return to communities which offer no services to the retarded, we rely on the public health nurses in Maine to follow them at intervals to give continuing support and to determine the effectiveness of medication and other therapeutic suggestions. Following the clinic all personnel attend an evaluation session in which each case is thoroughly discussed. At this time we attempt to make as exact an etiological diagnosis as is possible within the limits of our abilities and facilities. Recommended therapy is reviewed in view of total management. Referring physicians and interested professional personnel representing various public and private social agencies are invited to this meeting which has been a most successful educational effort for both the visitors and for the staff.

## ROLE AND RESPONSIBILITY OF THE STAFF PERSONNEL

1. The pediatrician is responsible for the direction of the clinic, for a complete physical and neurological examination, and for interpretation of findings to and guidance of the parents.

2. Each child receives a psychological evaluation. For the purposes of this discussion, the evaluation procedures may be divided into three sections:

### *Test Administration*

Standard tests are administered for the purpose of estimating the amount of deviation from the so-called "normal" range of performance. The mental age of each child is determined from the tests which indicate the functioning level of the child. For example,

\*Thayer Hospital, Waterville, Maine.

if a retarded child has a chronological age of four years and his test performance shows that he is only capable of doing the kinds of things ordinarily expected of a two-year-old, the child is said to have a mental age of two years.

If this mental age of two years (24 months) is divided by the chronological age of four years (48 months) and the result is multiplied by 100 to avoid fractions, an Intelligence Quotient of 50 is obtained. The number 50 refers to the fact that, while the child is adding an annual increment to his calendar age each year, he is not making corresponding progress in his mental ability as measured by standard tests. In other words, he is said to be functioning at a level which is 50% or "normal," when 100 is considered to represent the average I.Q. measure for the normal population.

Many of the pre-school retarded children have been very slow in speech development and, therefore, it is customary in such cases to use a behavior scale such as the Cattell Infant Intelligence Scale. The behavior scale has a minimum of verbal directions to be given by the examiner and a minimum of verbal responses expected from the child. It is primarily a series of observations and the testing is done in pantomime — the Examiner performs a series of simple tasks and the child is then given an opportunity to imitate the performance so far as he is able to do so. It is common knowledge that tests given to very young children are quite unreliable as predictive measures, but with reasonable care used in interpreting the test results, much valuable information can be obtained with regard to the child's present level of ability.

If the child has progressed sufficiently in his speech, the examiner will use a more verbal test such as the Stanford-Binet Intelligence Scale. The Stanford-Binet Scale is virtually an upward extension of the Cattell Scale, but the scores obtained on the Binet Scale have a more reliable predictive value in view of the fact that the questions and answers represent the kinds of things that are ordinarily expected of a child in a school setting.

As a means of finding out more about the child's day-to-day behavior at home, it is very helpful to use an interview scale such as the Vineland Social Maturity Scale. This instrument is used with the mother as informant. She answers questions presented by the examiner with regard to the child's ability to dress and undress himself; his present stage of toilet training; his eating habits; his contacts with other children, and his general attitude toward his "world" of things and people.

The Vineland Scale yields a social age and a social quotient which are computed in approximately the same way as the mental age and I.Q. In most instances, the Vineland results compare favorably with the results on tests of mental ability. Discrepancies do occur and such discrepancies should be studied carefully. It frequently happens that a child feels more relaxed around the home and enjoys expressing himself in motor activity, but

fails to do his best when faced with a formal testing situation.

It should be noted that Section I represents a quantitative approach to the evaluation procedure. In other words, the scores obtained on the tests given to the retarded child are compared with scores obtained by normal children on the same tests. Numerical scores must be used with a great deal of caution and they should never be used alone. Additional information is very necessary and Section II will describe the qualitative aspects of the evaluation.

### *Observations During the Testing Session*

An individual test, administered to one child at a time, is primarily a clinical instrument. The observations of the child's methods of approach to the various tasks; his cooperation or lack of cooperation; his expressed feelings of resentment or negativism; the way he exhibits good or poor motor control; his level of physical activity during the testing period; all of these observations are invaluable aids in helping the examiner in his final estimate of functioning level. This type of study is qualitative and is quite beyond the compass of numerical measures and rigid formulas. For example, the physically handicapped child or the emotionally disturbed child cannot be expected to perform adequately on tests constructed for use with healthy children. When numerical scores are relied upon too heavily in such cases, the child is severely penalized. The examiner must draw upon his experience and good judgment in making a final evaluation. On his written report he will have the opportunity to include his qualitative findings along with the numerical scores.

### *Report and Discussion at Post-Clinic Conference*

After the testing session has been concluded, the examiner writes a full report on the examination as a whole and his findings will be discussed at the post-clinic staff conference. In most instances, the psychological findings reinforce the general clinical appraisal of the child's case. In some cases, however, there may be differences of opinion, which bring certain aspects of the case into clearer focus.

The psychologist may make his recommendations regarding future educational plans for the child or the advisability of institutional placement.

The psychological evaluation is important and it is recognized as an integral part of the team approach to the study of children in the modern clinic.

3. The psychiatric social worker, as a member of the clinic team, evaluates the social situation. She interviews both parents at the clinic, together or separately, to gain information about the family background and family relationships. She considers the social, racial, religious and economic background of the family. She tries to ascertain what affect the child is having on each member of his family — and especially his siblings and how the various members of the family are affecting the



child. She tries to understand the problems of daily living with the particular child, the acceptance of the child by his family, the parent's consideration of the needs of his siblings, their feelings about having a retarded child and their plans for the future of this child. Community attitudes and future school possibilities are explored.

The social worker tries to help the parents bring out their feelings of anxiety and sorrow that this has happened to them. She tries to allay feelings of guilt they may have about what they have done or have not done to cause this. She tries to help the family gain some acceptance of the reality of the situation without offering any false hopes or unrealistic reassurances. She continues her relationship with the family as they return to the clinic and on selected cases gives more intensive case work service.

The social worker works very closely with the Public Health Nurse who is giving guidance in the home to the parents re: home training and management. She provides consultative service to child welfare workers, other community agencies and individuals and interprets and handles referrals to other agencies. Her work is closely tied to the recommendations of the other members of the clinic team.

Counseling with parents is based on the premise that all children have basic rights and needs — for shelter, food, good health, for the right to belong to a family who love him and accept him, the right to associate with his peers and to have schooling and training based on his abilities.

4. An important member of the team is the Speech Consultant. Her evaluation of a speech program adds to the findings of the physical and neurological examinations so that she is a part of the diagnostic as well as therapeutic effort. Disorders of communication are a major problem for the retarded and one must rule out the atypical forms which may present a picture of pseudo-retardation and which demand an entirely different and more intensive therapy. Faulty speech is an obvious stigma, and progress in this area of development is gratifying to parents and results in a lessening of the emotional tension of the child by improving his attempts to be understood. Between clinic visits this consultant may see a child on several occasions for continuing therapy and this phase of the program has been requested by a majority of the parents.

5. Nutrition plays an important role in both the pre-natal and post-natal growth and development of all children. In the mentally retarded child it is complicated by certain specific problems. For example, prolonged difficulty in learning to chew solid foods.

It has been known for some time that the role of nutrition and the nutritionist was important to physical well-being. However, present day research in medical science is associating nutrition with the health of brain and nerve cells and causes of mental retardation in certain children. Research in the social sciences is teaching

us that we can hope to bring about changes in people's food habits only when we take into consideration their racial, religious, economic and social background together with personal idiosyncrasies. Thus the nutritionist or hospital dietitian must be trained in and utilize both the physical and social sciences if she is to work effectively.

The nutritionist's function, like that of other members of the clinic, is multi-phasic. It has to do:

- (a) With evaluation of the pre-natal diet in a search for significant information.
- (b) With evaluation of diet and guidance regarding improving nutrition in the family diet (which is basic and may affect the health and well-being of the patient and other members of the family including children.)
- (c) with specific guidance under the medical director in making any modification of the patient's diet.
- (d) with guidance in specific feeding problems; especially chewing which may contribute to improved speech. Nutritionist may help to stimulate parents to realize it is possible to teach simple activities as "chewing" and feeding oneself, which may open the way for continuing teaching and learning in accordance with each child's development.
- (e) with guidance regarding manners of eating which assist the patient in developing more socially acceptable behavior.

An attempt is made to gear this type of teaching to the abilities and degrees of acceptance of patient and family.

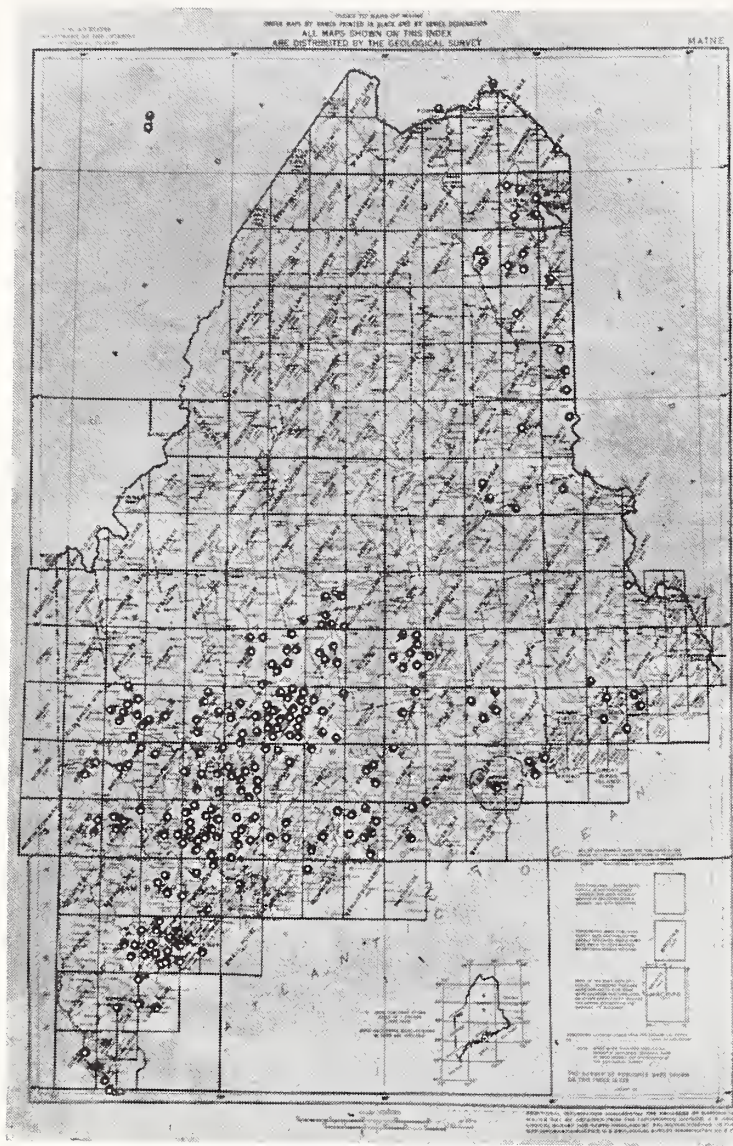
The contribution of the nutritionist in the clinic varies from family to family and patient to patient. However, it is felt that almost all families benefit from the service in some way. Further, an opportunity is afforded for the nutritionist to give some guidance to parents with questions regarding specific problems only. Such guidance is followed up by further guidance in nutrition through the public health nurse in the area. In any event an attempt is made to help each child reach his full potential through improved nutrition.

6. The application for Mental Retardation Clinic services are made out in the home, giving a complete picture of child and family. Nutritional histories are also taken prior to clinic attendance. This is very important since many of these children present a feeding problem.

During the clinic session the Public Health Nurse has a conference with each parent, takes hand and footprints on all mongoloids, and suspected mongoloids. She is also responsible for doing phenyl pyruvic acid tests on all children who are not toilet trained and where specimens for the laboratory are not available.

The Public Health Nurse acts as a liaison between the clinic team and the family in terms of progress, effectiveness of medication if prescribed, and develop-





ment of problems which may have arisen since the last clinic visit. She makes follow-up visits in the home, in an effort to help parents to understand the child's condition, limitations, and potentialities from the evaluation made by the clinic team. Also included in the home visit is the offering of suggestions which may be helpful in daily care, training child in self help, healthy attitudes, and adequate socialization. The nurse helps families to carry out recommendations made at the clinic, and helps them to be aware of the needs of siblings in relation to the retardate.

She helps families to recognize this as their problem, but at the same time gives support in helping them to feel competent in making wise decisions in the face of unsolicited advice from well-meaning relatives, neighbors, and friends. She makes known facilities available in the community and State and corrects any misconceptions of the family or community in regard to mental retardation. She guides families to seek early diagnosis and evaluation so that a program for the child may be planned and put into action. She encourages families to join and take an active part in local groups and organizations for the retarded.

The role of the Public Health Nurse in the Mental Retardation Program consists of early case finding by

careful observation for signs of deviation from the normal pattern of growth and development. This is especially true in rural areas where the nurse may be the first professional person to have close contact with the family.

This clinic is the only facility of its kind in the state. As such, children are referred from Kittery to Fort Kent. The State of Maine Plan, allows payment for board, room, and transportation, so that a child may arrive in a condition to perform with maximal ability on psychometric testing. Children have been seen from every county in the state with the caseload roughly corresponding to the areas of concentrated population.

This service was offered initially once a month to children under 5 years of age. The demand for service necessitated holding the clinic twice a month in the second year of operation, and children were accepted who may have passed their fifth birthday, but who were not attending school. Four additional clinics were added in the third year of operation to be devoted entirely to return visits. Despite these changes the interval between the time of referral and the actual clinic visit was averaging seven to eight months.

We have seen 177 patients from March 1957 to March 1960, with 48 percent boys and 52 percent girls.

	1957-58	1958-59	1959-60
15 boys		38 boys	32 boys
29 girls		23 girls	40 girls
—		—	—
Total	44	61	72

SOURCE OF REFERRAL — FIG. 1

	1957-58	1958-59	1959-60
MCH or CC clinic	16	24	26
Public Health Nurse	6	22	27
Pvt. Physician	11	8	15
Family or friends	5	3	1
Pvt. social agency	1	1	
Public Welfare Agency	1	1	
Hospital	3	2	3
Other (Div. Veteran's Affairs)	1		

REASON FOR REFERRAL — FIG. 2

	1957-58	1958-59	1959-60
Slowness in rate of development	37	48	38
Inadequate self care	20	22	22
Problems of speech	22	22	14
Disturbed emotional behavior	2	1	1
Hyperactivity	4	6	2
Mongolism	1		8
Seizures	4	5	5
Desire for consultative services	8	13	33



## DIAGNOSIS — FIG. 3

Encephalopathy, due to postnatal cerebral infection	10
Encephalopathy, due to Bilirubin (Kernicterus)	3
Encephalopathy, due to mechanical injury at birth	33
Encephalopathy, due to Anoxemia at Birth	14
Encephalopathy, due to Postnatal Injury	4
PHENYLKETONURIA	1
HYPOTHYROIDISM	3
TUBEROUS SCLEROSIS	1
INTRACRANIAL NEOPLASM	2
CEREBRAL DEFECT, CONGENITAL	1
CEREBRAL DEFECT, CONGENITAL Associated with Primary Cranial Anomaly	1
MONGOLISM	25*
DUE TO UNKNOWN PRENATAL INFLUENCE	51
ENCEPHALOPATHY Association with Cerebellar degeneration	1
CULTURAL-FAMILIAL MENTAL RETARDATION	8
PSYCHOGENIC MENTAL RETARDATION —	
Association with environmental deprivation	3*
Association with emotional disturbance	1*
NOT RETARDED	21

\*These cases (2 mongolism and 4 psychogenic mental retardation) also appear in the non-retarded group as they were functioning in a low average — borderline category.

It has been said that there is a tendency for parents of retarded children to "shop around." It is interesting to note that only 9.05% of the patients had been studied elsewhere prior to referral. Therefore the need for such a service is confirmed by the infrequency of previous adequate evaluation, in most cases. At the time of the first clinic visit only 5.2% of parents were unaware of the diagnosis. However, 13.5% of the parents had not accepted the diagnosis or the implications of the problem.

ANALYSIS OF EVALUATED CASES  
MEDICAL CLASSIFICATION

The medical classification used in the simplified one developed by the Technical Planning Committee of the American Association of Mental Deficiency. (Fig. 3)

It will be noted that the largest percentage, roughly one-third are in the group associated with diseases and conditions due to (unknown) pre-natal influence. This is due in part to an inability to categorize certain findings as pre-natal and to assign an etiological significance to disturbances occurring before birth. <sup>1</sup>Some diagnoses might be changed with more definitive neurological studies whereas others will never be diagnosed with certainty until post-mortem histo-pathological examinations are done.

	PRIMARY	ETIOLOGY
	Male	Female
	48%	52%
Psychogenic	4.6%	3.6%
Organic	38%	42%
Normal	5.4%	6.4%

(1) It is difficult, if not impossible, to evaluate complications of pregnancy partly because with the passage of time, the recollection of significant details by the mother becomes vague and indefinite and partly because hospital labor and birth records are all too often wanting, except in observation of major complications.

The tests used by our psychologist have been discussed earlier in the article — their application and interpretation. The use of the Stanford-Binet Intelligence Quotient in the following table (Fig. 4) is a means of classification only and not as an absolute measure of intelligence status. There were 11.8% of the children who were functioning above the Mentally Retarded level (I.Q. 75). Of these, 2.2% were of average intelligence (above I.Q. 90). The remaining 9.6% were in the group of Low Average Intelligence. A diagnosis of Mongolism by physical examination was made on two children with an I.Q. of 77 and 80 respectively. Four children were tested in the group of Low Average intelligence which was felt to be below their potential ability possibly because of emotional deprivation (3 cases) and because of a personality disturbance (1 case).

FIG. 4

Level of function	1957-58	1958-59	1959-60
AVERAGE 90	1 ( 2.3%)		3 ( 4.1%)
LOW AVERAGE 75-90	2 ( 4.5%)	3 ( 4.9%)	12 (16.7%)
MILD RETARDATION 50-75	9 (20.4%)	23 (37.7%)	22 (30.6%)
MODERATE RETARDATION 30-50	13 (29.7%)	18 (29.6%)	21 (29.2%)
SEVERE RETARDATION 0-30	19 (43.1%)	17 (27.8%)	14 (19.4%)
Total	44	61	72

*Early case finding and diagnosis of the mentally retarded child is imperative for the successful management of his problems and for future programming. While it is readily recognized that evidence of retardation will be noted in the more severe cases, emphasis must be placed upon the earliest possible recognition of the mildly retarded. It is obvious that the earlier the offering of appropriate training and supportive services to parent and child, the greater the possibility of keeping the child in the community. When one realizes that only about 5-10% of the retarded throughout the country are in institutions and that in Maine facilities even for the care of this percentage of the retarded population are not available, it is not practical to recommend institutional care except for those requiring special training and supervision. Then too it must be remembered that roughly 75-80% are only mildly retarded, with an I.Q. between 50-75, and that with*

early diagnosis, community services, proper help to the parents, and special educational provisions, many in this group can become self-supporting citizens. This early recognition of the retarded is a responsibility of all professional persons and agencies dealing with children. The post-clinic session, seminars and workshops, and the reports on each patient which are sent to his physician, are part of the effort to educate and increase the awareness of those concerned with children as to the diagnosis and significance of mental retardation.

There is a considerable difference in the type of care, particularly the degree of retardation which was seen in the first year of operation as compared with subsequent years. For example, 43.1% of the cases seen in 1957-58 were severely retarded (I.Q. 0-30) as compared with 27.8% and 19.4% in this category seen in 1958-59 and 1959-60 respectively.

However we are seeing about the same number of mildly (I.Q. 50-75) and moderately (I.Q. 30-50) retarded. Yet it has been estimated that the ratio of the mildly (educable) to the moderately (trainable) retarded in a community is about six to one. This probably reflects the greater need of parents, professional persons, and agencies for understanding and guidance of the moderately retarded, but serves to point up the need for continuing education if we are to habilitate the overwhelming majority of the retarded population, ie. the mildly retarded.

Finally we are seeing an increasing number of children who are not retarded by psychometric testing but who have been referred for diagnostic evaluation because they are not performing at maximal capacity or because they give a history of mild variation or delay in development. In 1957-58, 6.8% of the cases tested above the level of mental retardation (I.Q. 75) but in 1959-60, 20.8% of the cases seen were above that level of functioning. *It is hoped that this trend represents a growing appreciation of the differences in the abilities of children and that significant variations merit careful investigation rather than a policy of watchful waiting.*

The paucity of community services for the retarded in Maine limits referrals and recommendations. In most cases the guidance and counseling is keyed to the intrinsic and extrinsic resources of each family group because they come from rural areas which offer no supportive service. Again the public health nurse has been invaluable in the interim support which she has been able to give these families. This continuing contact between clinic visits is not only important for the interpretation of recommendations but it is dispelling the feeling of isolation experienced by the parents of the retarded. Counseling may be easier because the majority return to rural communities, which though they offer no additional service, are relatively free of the pressure of modern, urban society.

We have found the manual "The Mentally Retarded Child at Home" by Laura L. Dittman, to be of great value. This is Children's Bureau publication No. 374,

and can be purchased from the U. S. Government Printing Office, Washington, D. C., for 35 cents.

Whenever possible parents are referred to the local associations for retarded children. In four instances clinic recommendations to parents have resulted in new local groups. The first parent who was advised to start a group in his community is now President of the Maine Association for Retarded Children.

Referrals for continuing speech work evaluation and treatment of physical handicaps, and auxiliary medical consultations, particularly for sight and hearing, complete the work-up of each case, and offer additional support in that parents are made to feel that everything possible has been done. Dissatisfaction of clinic services has been expressed by only 5.1% of parents. Psychiatric consultation was given to a parent in only 3 out of the 177 cases. The reasons for these latter statements are not immediately forthcoming but they deserve critical analysis in a thorough and final evaluation of this service. Such a study should be a research project for the future.

Out of the total case load 57 cases or 32.2% have been closed for the reasons listed in the following table:

IN SCHOOL	9	5.1%
DECEASED	7	3.9%
INSTITUTION	11	6.2%
NOT RETARDED	21	11.9%
MOVED OUT OF STATE	6	3.4%
NO FURTHER SERVICE DESIRED	2	1.1%
NO FURTHER SERVICE NEEDED	1	0.6%
	<hr/> 57	<hr/> 32.2%

#### DISCUSSION

Early case finding and diagnosis of the mentally retarded child is imperative for the successful management of his problems and for future programming. The handicapped child and particularly the mentally retarded, is more likely to be multiply rather than singly handicapped. Therefore diagnostic evaluation is often beyond the ability of only one individual and requires the contributions of the various disciplines concerned with this type of handicap. The team approach results in a more thorough study of each patient.

This report is an analysis of the case material of the first three years of operation. It suggests a growing awareness of this significant handicap and of the problems involved in the management of each particular child. The large percentage of cases diagnosed as due to Unknown Prenatal Influence illustrates our lack of knowledge in this area and the need for more precise methods of evaluation.

In some measure this report defines the scope of the problem in Maine. The paucity of adequate work-up of the children prior to coming to the clinic and the long waiting list emphasize the need for such a facility and merit serious consideration for additional clinics elsewhere, in the State. The lack of auxiliary services



in Maine to whom the child and the family can be referred for continuing support is noted and seriously hampers the fullest achievement of this program.

Only 5-10% of the retarded throughout the country are in institutions. In Maine, facilities even for the care of this percentage of the retarded population are not available. Therefore it is not practical to recommend institutional care except for those requiring special training and supervision. There is still too much rigidity in the counseling of parents regarding institutional care.

In the past and still present in the minds of many physicians is the concept of early institutionalization. This is unwarranted because of the reasons stated previously. In addition the inadequacy of psychological tests as well as changing diagnoses make concrete and final statements regarding a mentally retarded child hazardous and unwise. Finally in our series there were two Mongoloid children who are shown to be functioning in the low average range of ability, and this has been confirmed over a two to three year period of observation. The older teaching recommended early

placement of the Mongoloid child. However, the difficulty of making a positive diagnosis of Mongolism at birth as well as prognosticating future potential forces one to abandon this viewpoint for a more humane and realistic one. The emotional problems involved in the separation of mother from child must always be foremost in our thinking. Institutional care may become necessary. However many studies have shown the beneficial effects of good home care and training in the early years, particularly on the eventual level of intellectual functioning, when comparisons are drawn between children kept at home until later childhood and those institutionalized in infancy. On the other hand to insist on keeping a child within the family group who is causing continuous emotional strife is ill-considered. Future research is needed into the nature of retardation due to emotional, socio-cultural, and intellectual deprivation and such studies might well indicate the necessity for early placement of children in an environment other than the home. Management of the mentally retarded child must be individualistic as is all treatment in medicine and in no way different.

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### Trachoma Common Eye Infection Among Southwest Indians

Trachoma, a virus-caused infection, "is still a common affliction of Indians in the southwestern United States," according to a report in the (Feb. 4) *Journal of the American Medical Association*. The disease once was the most common cause of blindness but sulfonamide and antibiotics now can control its spread.

The Journal report by Drs. John C. Cobb, Albuquerque, N. M., and Chandler D. Dawson, San Francisco, U. S. Public Health Service, was based on surveys among four Pueblo tribes and Navaho school children in New Mexico and Arizona.

In each village almost all children of school age were examined, they said, but the adults who presented themselves at clinics represented a distinct minority of the adult population.

"About 15 per cent of 2,522 Pueblo Indians seen and 23 per cent of 1,126 Navaho school children had the disease," the authors said.

"Almost 18 per cent of the adolescent Navaho children examined had active trachoma, an indication that this tribe is heavily infected.

"Spread of the disease in homes and schools is probably enhanced by overcrowding and inadequate water supplies.

"There is little doubt that trachoma can be passed from child to child in crowded schools where sanitation is poor."

At one boarding school on the Navaho Reservation, nine cases were found among the 134 pupils and two weeks later, 22 new cases were uncovered.

"When the hygienic standards of the school were checked, it was found that the water supply was inadequate and that the children were using common wash water," the authors pointed out.

Among the Navahos, who live in crowded quarters with little water and are exposed to a windy, dusty environment, trachoma is still a constant threat to eyesight, they said.

The Division of Indian Health of the U. S. Public Health Service is engaged in a control program of health education, early diagnosis, and treatment of active cases, they added.

# Trauma To The Urinary Tract And Its Management

EARLE M. DAVIS, M.D.\*

The purpose of this presentation today is to briefly discuss the most common types of trauma to the genitourinary tract and to emphasize the various diagnostic steps which should be taken in the immediate management of such trauma. With the increasing speed and power of the automobile, with more frequent endoscopic examinations and manipulations of the urinary tract and with the increased awareness of urinary tract trauma in all general bodily injuries, the diagnosis of urinary tract trauma is being made more frequently than ever before.

Generally speaking trauma to the urinary tract may be divided into iatrogenic and external types. Trauma to the ureter is the most common hazard encountered during surgery; renal, vesical, and urethral injuries being rare. It is generally agreed that the earlier the diagnosis of ureteral injury is made and managed, the better the results. Endoscopic manipulation of the ureter may cause damage with perforation, laceration, or complete avulsion. Abdominal and especially pelvic surgery can be associated with ureteral trauma and usually is either ligation, incision, or complete transection of the ureter. Last year Dr. Staubitz and his associates in Buffalo, New York, presented a series of ureteral injuries in 22 patients. They emphasized the prevention of accidental injury to the ureter by evaluating preoperatively the urinary tract with intravenous pyelograms as well as the insertion of indwelling ureteral catheters preoperatively and they advise such insertion in all pelvic surgical procedures. In their hands a catheterized ureter has never been injured at the time of surgery. It is not necessary to state that good surgical technique consisting of proper exposure with good visualization, cautious dissection, and accurate hemostasis all aid in the prevention of ureteral accidents. Should an accident occur however, good urologic principles must be observed. Nonabsorbable sutures must not be exposed to the flow of urine; drainage must not be through the site of anastomosis; the ureter must not be under tension; and the site of repair must be drained.

As to the best method of repair of the surgically injured ureter, the type of injury, its extent and location within the ureter are all determining factors. Excision of the injured portion of the ureter, with as sharply oblique trimming as possible, is best used only if the ureter can be reapproximated without undue tension.

In the lower third of the ureter it may be wisest to free the ureter from its usual bed and perform a ureteroneocystostomy. If the ureteral damage is extensive destroying much of its length, the use of a length of ileum may be indicated for a urinary conduit.

Because the kidney regains less function the longer it is obstructed, the early diagnosis and management of a ureteral accident is most important. It is generally agreed that approximately two weeks time of complete obstruction is the upper limit beyond which the kidney will no longer return to its previous capabilities. It has been a common finding that the best results of repair have resulted with the earliest repairs. If a preoperative evaluation of the urinary tract has been made, and the possibility of ureteral injury is considered, and postoperative x-ray studies or ureteral catheterizations are carried out, the diagnosis of injury will be more quickly made and its repair more quickly carried out.

Trauma to the urinary tract from external sources may be seen equally as often in the kidney, in the ureters, in the bladder and in the male urethra. Renal injury should be considered in all extensive bodily injuries such as seen in automobile accidents. The type of injury from such blunt trauma may be simple contusion, in which there is no gross disruption of either the capsule externally or the calyceal or pelvic surfaces internally. If such an interruption in the integrity of either covering takes place the kidney is considered ruptured. Because the kidney is mobile it is possible to have a complete avulsion from the renal pedicle without interference with the collecting system. Simple contusion of the kidney may give pain in the renal area, microscopic or gross hematuria, and little else. Rupture of the renal capsule may give a mass in the renal area with the formation of a hematoma, while rupture of the pelvic surface may give extensive gross hematuria. Avulsion of the kidney from the renal pedicle may give exsanguinating hemorrhage in an extremely short time. If there is a suspicion of renal injury, the patient is not in shock, and is not sensitive to the radiopaque solution, an intravenous pyelogram should be done promptly. If an intravenous pyelogram is not possible, then bilateral retrograde pyelograms should be made if the patient's general condition warrants it and the necessity to diagnose a renal injury demands it. The immediate exploration of an injured kidney on an emergency basis is generally unwise. Minimal or moderate injury to the

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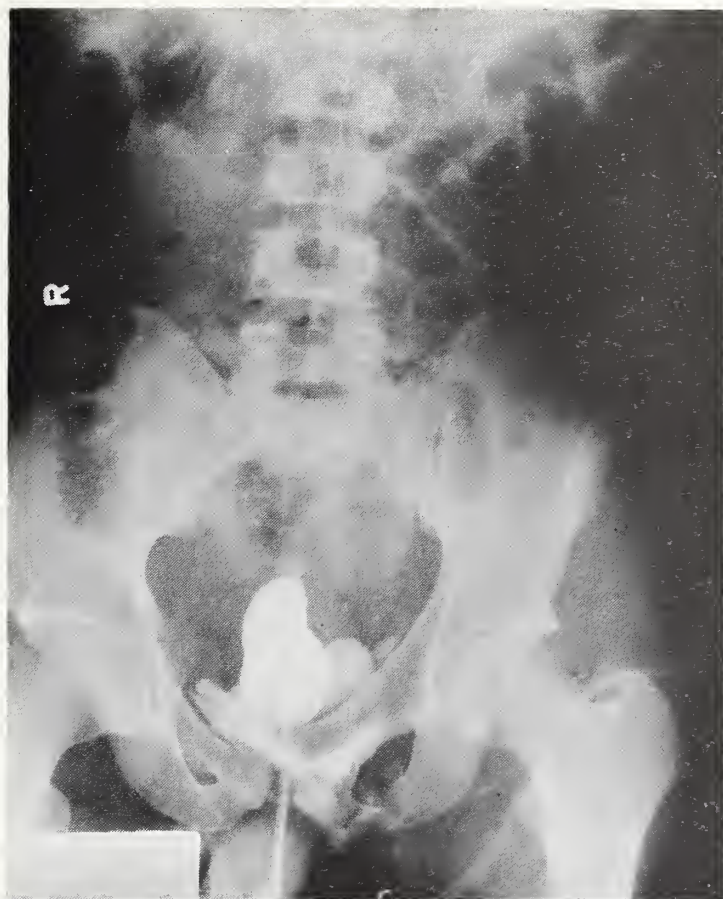


FIG. I: Fractured pubic rami, as well as transverse processes of the lumbar vertebrae. No excretion of dye from either kidney 30 minutes after intravenous dye injection. This cystogram, made with 25cc. of radiopaque dye in normal saline, clearly demonstrated the puncture laceration on the floor of the bladder allowing the dye to escape into the perivesical tissues. Treated with suprapubic incision and extensive drainage of the perivesical spaces, done under local anesthesia. Death one week later from traumatic myocardial infarct.

kidney is usually self-limited and spontaneously healed. Extensive damage to the kidney should be repaired, but only after the condition and function of the opposite kidney has been determined and after other associated injuries have been treated in the order of severity. Nephrectomy, heminephrectomy, and simple exploration with drainage of hematomata and repair of lacerations are the most commonly indicated procedures.

The diagnosis of moderate or minimal injury to the kidney is made by physical examination, clinical course, and x-ray findings; however, the possibility of delayed secondary hemorrhage is a real one. It is generally agreed that strict bedrest is necessary for one week during which time renal function studies may be carried out. Daily urinalyses as well as renal function studies should be made during the first week and periodic x-ray examinations should be made subsequently. Though the statistics are far from conclusive, the incidence of renal trauma with subsequent scarring giving rise to hypertension appears to be increasing, only where there has been extensive damage.

Ureteral trauma stemming from external forces is rather uncommon except for simple contusion. Penetrating injuries such as stab wounds and gunshot wounds

are the most common causes of ureteral injury. However, these are usually associated with injuries of more serious nature such as ruptured bowel or the great vessels of the abdomen. Evidence of urinary extravasation such as fever, painful mass, or a draining fistulous tract, may be delayed for several days following the injury. Drainage of the area should be prompt but the repair may be delayed until other complications have been cared for. The repair as stated before depends upon the location within the ureter and its extent.

Trauma to the urinary bladder should be diagnosed as promptly as possible and, in the case of rupture, must be cared for immediately if the patient is to survive. In any case of severe trauma to the abdominal wall or bony pelvis, bladder injury must be considered. The insertion of an indwelling catheter should be one of the first steps to be taken in the emergency care of any severely injured person. If bloody urine is obtained from the urinary bladder a cystogram should be made as soon as possible, using portable equipment if necessary. This is the safest and most rapid way to differentiate simple contusion of the bladder from rupture. A cystogram also differentiates immediately, the intraperitoneal rupture from the extraperitoneal rupture.

If intraperitoneal rupture has been diagnosed by x-ray,



FIG. II: Fractured pubic rami, bilateral, with grossly bloody urine obtained on catheterization. Cystogram with portable x-ray equipment reveals no extravasation of dye but typically pear-shaped bladder following contusion. Treated with constant bladder drainage for one week while patient was in pelvic sling, at the end of which time he voided in normal amounts with good control.

immediate drainage of the bladder and repair of the bladder wall is necessary. Extraperitoneal rupture demands immediate drainage of the involved area, but the rupture itself need not necessarily be repaired. As in the repair of the ureter mentioned before, absorbable sutures are used within the bladder where they may be exposed to urine. In the repair of an extraperitoneal rupture involving the trigone or its immediate vicinity, great care must be taken to avoid the intramural portion of the ureters.

The diagnosis of ruptured urethra is most easily made by performing a urethrogram using a radiopaque dye and demonstrating extravasation. The safest materials to use are those which are injected intravenously for pyelographic studies, since extravasation may cause the dye to enter the periurethral venous systems and oily solutions would cause fat emboli. The ruptured urethra should be repaired and splinted with a urethral catheter for a period of 10 days. Where there is extensive crushing of the perineum, it is not always possible to identify the severed ends of the urethra. If possible however, the ends should be identified and reapproximated, since this will decrease the extent of post-traumatic stricture.

#### SUMMARY

In summary, urinary tract injuries may be divided into large groups, one resulting from surgical or manipulation procedures, and the other resulting from

trauma of external origin. Trauma of the former type may be prevented by preoperative evaluation of the urinary tract with intravenous pyelograms and ureteral catheterization in pelvic or abdominal surgery which is likely to involve the periureteral tissues. Once having occurred, they may be diagnosed and handled promptly if such a possibility is kept in mind and looked for by using postoperative x-ray studies or catheterizations when indicated.

In the latter group of urinary tract injuries, the prompt but judicious use of x-ray studies help make the diagnosis and guide the management. The vast majority of renal and ureteral injuries may be treated conservatively and are self limited. Progressive, exsanguinating hemorrhage from a ruptured kidney, and a ruptured urinary bladder, either intraperitoneally or extraperitoneally, are the only two conditions which demand immediate and emergency surgery.

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#### New Acetic Acid Solution Heals 'Swimmer's Ear'

A new acetic acid solution was recommended recently for the treatment and prevention of "swimmer's ear," an inflammation of the outer ear caused by bacteria or fungi.

Writing in the (Feb. 4) *Journal of the American Medical Association*, Dr. Ben H. Jenkins, Newnan, Ga., said the solution combines the time-proved anti-fungal properties of acetic acid and the disinfecting and drying action of alcohol.

He said the solution (VosoL Otic) produced "entirely satisfactory results" in 200 patients. The condition was considered "completely cured" after four to six days in most cases, he said.

Of the 200, 146 had acute new cases not previously treated and 54 had received other medication without satisfactory response, he said.

Dr. Jenkins said the solution had several advantages over antibiotics and other drugs. The use of antibiotics and sulfonamides can be followed by the development of antibiotic and sulfonamide-resistant bacteria, he said, and other drugs may suppress the symptoms without curing the infection.

Dr. Jenkins said he also instructed a number of other patients who previously had swimmer's ear to use the preparation routinely after swimming as a preventive measure. He said not one patient with a history of swimmer's ear — some over a period of five years — has had to be treated for this condition again.



# Psoriatic Erythroderma, Rheumatoid Arthritis, And Death, As A Sequence To A Drug Reaction

SAMSON FISHER, M.D.\*

Psoriasis, in its natural course, rarely shows clinical evidence of any systemic involvement. The patient's health is generally unaffected. Two complications or developments may occur which make this ordinarily benign disorder a severe and possibly a fatal disease. These conditions are<sup>1</sup> psoriatic erythroderma or exfoliative dermatitis, and rheumatoid arthritis, which are estimated to occur respectively in about 1% to 6% of the cases.

Psoriatic erythroderma or psoriatic exfoliative dermatitis occurs for unknown reasons in most cases. It may occur as a drug reaction; and it is almost a predictable response to the administration of synthetic antimalarial drugs, such as quinacrine or chloroquine, in the treatment of psoriasis. The disease generally begins as a generalized redness on which exfoliation to a mild or massive degree may supervene. Hair and nails may shed. Constitutional symptoms usually develop with malaise, chills and fever. It is not possible to predict the outcome of such a case. The known drug reactions almost invariably subside with complete disappearance of the erythroderma and psoriasis. Subsequently there is a recurrence of psoriasis in its original form. This generally spans a period of several weeks. When due to unknown causes the condition may persist indefinitely, fluctuate, or clear spontaneously. The patient may suffer from inanition and subsequently succumb to infection. With the advent of steroid therapy the course of the disease is altered, and a new array of complications may occur which can be attributed to the treatment.

Synthetic antimalarial drugs are known to produce a dramatic flare in psoriasis, and frequently progress to an exfoliative state.<sup>2,3</sup> One report<sup>4</sup> states: "Seven patients with psoriasis were treated with chloroquine, and the response was unsatisfactory in all. There were two instances of dermatitis medicamentosa. . . ." A series of cases treated with antimalarials followed a fairly fixed pattern<sup>5</sup> of development. In all cases the eruption flared and spread. With withdrawal of the drug the process subsided markedly, with complete clearing in some. Over a variable period of weeks all cases had a recurrence of psoriasis. Others have reported similar experiences.

The association of psoriasis and arthritis has been reported extensively<sup>6</sup>. The two diseases may co-exist

casually and independently of each other, and follow a separate course of development. There is an accepted entity of psoriatic arthritis which differs from classical rheumatoid arthritis in several respects. In the former, males are more frequently involved than females; subcutaneous nodules are absent; the arthritis is usually asymmetrical, with primary involvement of the distal interphalangeal joints; there are typical destructive joint changes in this area; the various rheumatoid factor tests are likely to be negative. Erythroderma, as a drug reaction to chloroquine in other disorders than psoriasis, is rare. Considering the frequency with which psoriasis occurs with rheumatoid arthritis, and the fact that chloroquine is a popular medication for rheumatoid arthritis, it would seem inevitable that chloroquine would be given inadvertently to arthritic patients with psoriasis, with a consequent catastrophe to the skin. However, reports of reactions under such circumstances could not be found. In fact, in a brochure issued by Winthrop Laboratories, A. W. Bagnall is quoted as saying: "Aralen® (chloroquine) is also of value in the treatment of . . . arthritis associated with . . . psoriasis."

The case under discussion is interesting to the extent that it embodies many of the disease relationships commented on above. The patient was a forty-five year old female with a history of mild psoriasis for eight years. For the past two years, after a prolonged quiescent period, the eruption progressively spread. Various oral and topical preparations were prescribed with no particular effect. The patient was having discomfort because of extensive involvement of the perineal area; so prednisone, 5 mg. t.i.d., was started, with questionable improvement. In April, 1959, chloroquine in a dose of 125 mg. t.i.d., was started. Treatment up to this point had been carried out elsewhere; therefore the rationale for these various medications, and in fact the ingredients of some of the medications, was not known. After taking chloroquine for two days the patient had noticed that her skin burned, and in another day began to turn red. Medication was continued for one week, in spite of increasing discomfort, and at the end of this time a full-blown erythroderma had developed. In addition to the chloroquine and prednisone, she had taken rauwolfia for a few weeks, thyroid for a few years, Alphosyl® for two weeks, and frequent aspirin and Ex-Lax® for years.

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Her past history revealed that the patient had been having some lameness and aching on arising for years. This must have been mild, since the information was not volunteered by the patient, even on direct question, until she was reminded by a member of her family. She had mild hayfever. She was supposed to have had a severe kidney infection during the first of four pregnancies; at various times she was thought to have diabetes, hypertension, and hypothyroidism. None of these diagnoses could be confirmed by subsequent careful study. The family history was non-contributory.

When first seen, the patient complained that her skin burned and that she felt chilly. Examination revealed nothing unusual except her skin. Her general health was considered to be good. She was a thin, alert woman in no great distress. Temperature varied around 100° F. Her skin was universally bright red, edematous, and hot. There were several small plaques on the abdominal wall, labia, buttocks, and elbows. These were covered with densely adherent silvery scales. She had a thick head of black hair. Her nails appeared normal. There were bilateral, tender inguinal nodes. There was no apparent involvement of the joints.

She was hospitalized and treated with starch baths, petrolatum, and aspirin. The prednisone was continued in a dose of 10 mg. daily. For several days the redness appeared to fade slightly but progressively, and she thought the skin discomfort was lessening. However, she was bothered increasingly by aching in her back, shoulders, knees, and elbows. One day she awakened with red hot swelling of the shoulders and knees, and a temperature of 103° F. Within a few days other large joints, and all digital joints were involved, including the metacarpal-phalangeal joints. Large doses of salicylates, up to 8 grams daily, gave very little relief. She soon began to exfoliate massive quantities of skin, in flakes, casts, and sheets. She shed clumps of hair to the point of nearly total baldness. Only the scalp hair was shed. All nails became deformed, loose, and were eventually shed. The dose of prednisone was gradually increased to 90 mg. daily before the patient was comfortable enough to sleep through the night. The sedimentation rate was repeatedly over 100; repeat rheumatoid factor tests were negative, but later became positive. L. E. tests were negative. The steroid suppressed the manifestations of arthritis but had only a mild effect on her skin. Throughout her illness the dose of prednisone was determined by the severity of the arthritis only, and never the dermatitis. It was interesting to note that the skin was universally involved except for several small areas. These were the sites of the psoriatic lesions at the time of the onset of the erythroderma. Here the appearance and texture of the skin were normal. For a short time triamcinolone was substituted for prednisone, with decided improvement in her skin.

The disease fluctuated considerably over the next twelve months, with the dermatitis and the arthritis al-

ways varying in intensity in the same direction simultaneously. Her hair and nails grew back with the nails now showing pin-point stippling. She developed marked Cushingoid changes with moon face, hirsutism, and a "buffalo hump." In the spring of 1960 it was possible to reduce the dose of prednisone to 10 mg. daily, and the patient was doing much of her own house work. She then rapidly became worse than she had ever been. On two occasions she developed an acute monilial vaginitis and a severe monilial dermatitis involving all the intertriginous areas. In June she awoke one night with a crampy abdominal pain, and abruptly vomited an estimated two quarts of bright blood. X-ray examination revealed a large, shallow, pre-pyloric ulcer. The bleeding stopped spontaneously. There were no suggestible ulcer symptoms before or after the bleeding episode.

For eight weeks during the summer of 1960 she was hospitalized at the National Institute of Health. She returned in September in essentially the same condition, plus some collapsed thoracic vertebrae. This was presumably the cause of continuous, severe chest pain which was present. A disturbance in her vision was found to be due to the development of "steroid cataracts." Her general condition had been deteriorating for the past few months, and progressed more rapidly down hill. She was bedridden, and it was impossible to relieve her pain except with narcotics. On the 4th of October she began to complain of nausea, and vomited whatever was given by mouth. Examination revealed marked epigastric tenderness as the only new finding. Opinion was divided as to whether or not she had a perforated bowel. Forty-eight hours later she suddenly went into shock, and expired in a few hours.

Post-mortem examination revealed very few significant gross findings. The ribs cut very easily. There was no evident peritonitis. The stomach wall was very thin with almost complete absence of the muscularis. An extensive hemorrhagic process involved all layers of stomach wall. There was a large, shallow, prepyloric ulcer on the lesser curvature. The pituitary and adrenals appeared intact. Both kidney pelvises were full of stones. Tissue blocks were sent to the National Institute of Health for interpretation. An oral report of the significant microscopic findings was as follows: "The pituitary appeared normal, and each adrenal cortex showed only moderate atrophy. The stomach and bowel showed many minute ulcerations infected with staphylococcus. A phlegmon extended from the cardia up the esophageal mucosa. There was a peritonitis presumably due to penetration of infection through the intact bowel wall. Death was thought to be due to toxemia from staphylococcic peritonitis."

#### DISCUSSION

Such a termination may be looked for in a patient taking large doses of prednisone over a long period of time.<sup>7</sup> However, in the pre-steroid era the patient



might have died sooner from her malignant rheumatoid arthritis or the severe dermatitis.

The relationship of rheumatoid arthritis and psoriasis is not well understood, and it is futile to speculate about this problem here. Nevertheless it is worth emphasizing the point that according to accepted criteria, this case would be classified as rheumatoid arthritis AND psoriasis, rather than psoriatic arthritis. However, each disease process appeared and developed so intimately with the other, that a common etiological mechanism must be considered likely.

Chloroquine and psoriasis also form some obscure relationship. Psoriasis frequently develops into an exfoliative dermatitis under treatment with chloroquine. This drug is usually well tolerated, and in no other disease than psoriasis is there an unusual incidence of reactions. Chloroquine finds its greatest use in dermatology in the treatment of light-sensitive dermatoses. Psoriasis on the other hand usually improves in the summer time, and is commonly treated with ultraviolet light. It is interesting to theorize that chloroquine interferes with some enzyme system that is activated on exposure to light, and therefore has a protective effect in light sensitive states. By the same token chloroquine may interfere with an enzyme system which is keeping psoriasis in check, and the use of the drug may produce a disastrous result.

#### SUMMARY

A case is presented of psoriasis treated with chloroquine. Erythroderma with exfoliative dermatitis resulted. Almost simultaneously malignant rheumatoid arthritis supervened. This was the type of arthritis which is classified as occurring coincidentally with psoriasis, rather than as psoriatic arthritis. The patient finally succumbed to an infectious peritonitis which was considered to be a complication of steroid therapy.

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  - (b) The veteran was discharged from active service because of a disability incurred or aggravated in line of duty;
  - (c) The veteran receives or would be entitled to disability compensation.

Under existing law, the Administrator *may* furnish hospital care which he *determines* is needed for a veteran in the above categories. In effect, this bill would eliminate the Administrator's authority to determine the veteran's need for hospitalization.

Author — Beckworth (D) Tex.; Introduced January 3, 1961; House Veterans' Affairs Committee.



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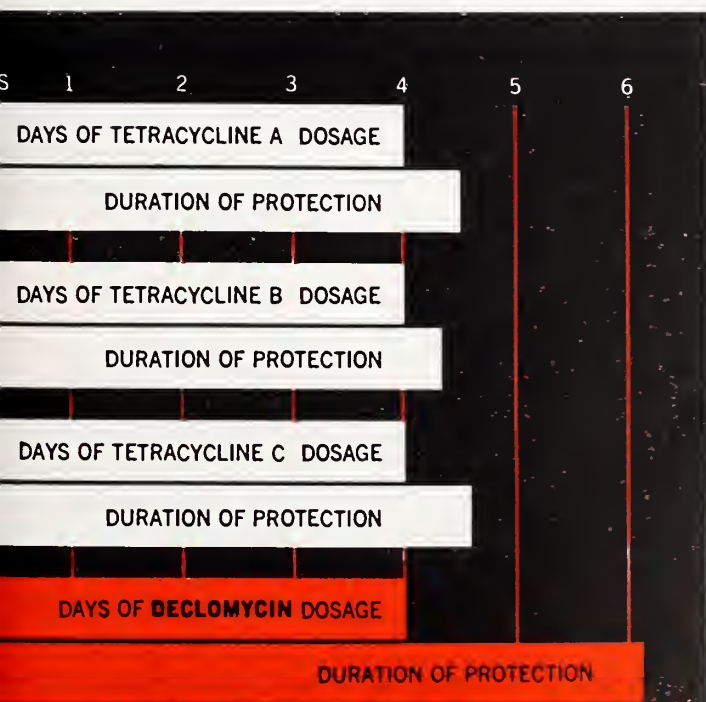


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# Edema, Diuretics And Electrolytes

## A Brief Review Of Some Of The Recent Literature

PAUL H. PFEIFFER, M.D.\*

### EDEMA

For the purpose of this discussion the only types of edema to be considered will be those due to cardio-renal causes and an idiopathic variety associated with salt and water retention. The edema due to malnutrition, hypothyroidism, hypoalbuminemia, inflammatory and other esoteric causes will not be considered.

As is well known, the edema associated with an inadequate cardiac output initiates sympathetic reflexes causing a diminished renal blood flow. Since urine output varies directly as does arterial blood flow through the kidneys this results in fluid retention. At the same time similar reflexes acting on the mesenteric vessels produce increased fluid absorption from the gastrointestinal tract where arteriolar constriction leads to increased osmotic flow.<sup>1</sup> A contributory factor to cardiac edema may be increased production of adrenocortical compounds with salt and water-retaining characteristics. The most potent natural steroid with this ability is Aldosterone. Fifty times more effective in this regard than desoxycorticosterone it was first isolated 10 years ago by Deming and Luetscher.<sup>2</sup> Since then Aldosterone has been intensively studied and some of the investigations have revealed paradoxical effects. Whereas there is an elevation of Aldosterone (normally 250 mcg. are produced in man daily) in edematous states associated with cirrhosis and nephrosis, it has been claimed that this is not true of congestive heart failure.<sup>3</sup> As a corollary, it has been observed that aldosterone-antagonists (spiro lactones) are often ineffective in cardiac edema. In primary aldosteronism, characterized by sodium retention, potassium wastage and hypertension, there is usually no edema. The highest levels of Aldosterone (10,000 mcg) have been found in malignant hypertension<sup>4</sup> — a condition not necessarily associated with edema.

The edema known as cyclical or idiopathic typically found in tense, emotional females has recently been investigated. In at least one instance it was found related to postural variations in the secretion of Aldosterone.<sup>5</sup>

### DIURETICS

In the field of diuretics there has been much interest in the Benzothiadiazine dioxide derivatives — first described in 1957.<sup>6</sup> Chlorothiazide and Hydrochlorothiazide have received the most attention of this in-

teresting group of compounds. Their action as diuretics appears due to a combination of carbonic anhydrase inhibition and a mercurial-like suppression of sodium and chloride reabsorption in the renal tubule. The main drawbacks of these agents has been the significant potassium loss they cause in 40% of patients and the reduction of glomerular filtration by 15-20%. Hypokalemia is capable of serious, even fatal, arrhythmias particularly in the presence of digitalis. Other ill-effects include muscle flaccidity, apathy, drowsiness and specific pathological lesions in the kidney. It is claimed that newer derivatives of the thiazides produce less potassium loss but this remains to be confirmed. Particularly when used in conjunction with the corticosteroids or in the presence of vomiting, diarrhea, severe liver and kidney disease the thiazides must be used with extreme caution because of their kaliuretic effects. Hyponatremia, on the other hand, is usually not encountered when they are used; and if found one should suspect a dilution effect or the hypo-osmolality of severe heart failure. Numerous side-effects of the thiazides have been described. Fortunately they are rare since these drugs are being widely prescribed. Among these are jaundice, thrombocytopenia, rashes, gastrointestinal disturbances, pancreatitis and hyperglycemia. A fairly common observation is a rise in serum uric acid after chlorothiazide administration but this does not cause clinical gout unless there is a family predisposition.

The relative efficacy of the orally administered thiazides has been compared by Gold, et, al to intramuscularly administered mercurials.<sup>7</sup> Their results show that a 2 gm. dose of chlorothiazide produces 40% of the diuretic response of 2 cc. of meralluride (Mercurhydrin®) or 70% of the response of 1 cc. of meraluride. In the presence of intractable edema refractoriness to the mercurials may develop as a result of hypochloremic alkalosis. Should liver disease contraindicate the use of ammonium chloride this can be treated by the intravenous installation of 40gms. of L-arginine monohydrochloride.<sup>8</sup> Prednisone has also been used in cases of severe cardiac edema with some success although the mechanism of action is not clearly understood. Intravenous Theophylline® may be used to potentiate the diuretic action of the mercurials.

### ELECTROLYTES

Already mentioned is the well-known disturbance termed hypochloremic alkalosis. This may follow intensive mercurial diuresis being due to the relatively

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greater chloride than sodium loss in the urine. It is treated with oral or intravenous ammonium chloride unless hepatic coma threatens in which case L-arginine monohydrochloride should be used in order to prevent ammonia intoxication. Besides the low serum chloride this syndrome often presents a rising NPN and  $\text{CO}_2$  (the latter may be a manifestation of a drop in intracellular potassium).

Hyponatremia associated with chronic heart failure implies a grave prognosis. Patients who would previously have succumbed to intractable "dropsy" are being kept alive by salt restriction and diuretics, to develop this complication. Beside the obvious dietary and diuretic factors mentioned, there are two mechanisms which play a role in the production of this electrolyte disturbance. First there is a tendency for potassium to leave the cells — whether due to anoxemia or hormonal influences is not entirely clear. Since the kidneys have not satisfactory means of retaining potassium and also because of the kaliuretic effect of the diuretics this important ion is lost and its body stores depleted. In order to maintain the intracellular osmotic equilibrium sodium and  $\text{H}^+$  ions enter the cells — further depleting the extracellular sodium and at the same time producing a relative alkalosis. This alkalosis, besides impairing renal diuretic functions, has been claimed to produce an expansion of extracellular volume<sup>9</sup> — adding thereby a burden to the already belabored heart. Second there is a renal mechanism characterized by the inability of the kidneys to produce a low-solute, hypotonic urine (resulting in a diminution of free water excretion and a tendency to dilute the extracellular sodium) which follows the drop in glomerular filtration rate due to the reduced effective cardiac output. Contributing to hyponatremia may well be other factors, such as excessive production of anti-diuretic hormone, cellular hypotonicity, salt-losing nephritis, adrenal insufficiency and other less obvious causes.

Whatever the reason for it, the best treatment of hyponatremia is to prevent it from developing. The sodium restriction should be tailored to the individual needs and need not be restricted to less than 2 or 3 gm. per day if diuretics are being used with good response. If it is necessary to restrict sodium more rigidly then water should also be restricted to 1500cc or less per day; even though these patients often complain of a paradoxical thirst. Potassium and acidifying salts are frequently needed to prevent the alkalosis mentioned above. Once hyponatremia has developed in the presence of heart failure it is unlikely that the administration of hypertonic saline solutions intravenously will be of benefit.

Low potassium syndromes must be watched for particularly during massive diuresis, recovery from dia-

betic coma, gastro-intestinal disturbances and in the presence of hepato-renal failure. If a diuretic is being used with no apparent diuresis one must consider the possibility that the diuretic is producing a kaliuresis without water loss rather than a saluresis with its concomitant water excretion. The dangerous arrhythmias associated with hypopotassemia have already been mentioned.

In connection with potassium metabolism an interesting syndrome of hypoaldosteronism has recently been described.<sup>10</sup> This is characterized by hyperpotassemia, complete heart block with Stokes-Adams attacks and, interestingly enough, congestive heart failure with edema.

A discussion of other electrolyte changes does not fall within the limited scope of this paper.

#### SUMMARY

This has been a brief discussion of some of the recently described facets of edema formation, diuretics and their complications and a few of the electrolyte aberrations encountered in cardio-renal failure.

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# The Dumping Syndrome

## Report Of A Case Inadvertently Produced By Tube Feedings

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### INTRODUCTION

Ordinarily the dumping syndrome is thought of as a complication of gastrectomy following which it occurs often enough to be considered a significant complication. This rather dramatic syndrome consisting of weakness, epigastric distress, nausea, perspiration, and lethargy coming on after meals has an interesting pathological physiology which will be discussed in connection with the following case report, but the main reason for this case presentation is to draw attention to the fact that this syndrome can occur as a complication of tube feedings.

### CASE REPORT

A 71 year old male, was admitted to Thayer Hospital in April, 1959, with a characteristic history of carcinoma of the larynx. At laryngoscopy a large mass occupying almost the entire right vocal cord was observed; it was ulcerative, polypoid, and the cord was fixed. There was no obvious evidence of extension into the surrounding areas. A biopsy taken showed epidermoid carcinoma, Grade III. It was agreed a total laryngectomy should be done. The patient, however, unrealistically refused all types of treatment even after the situation had been thoroughly explained to him.

In March, 1960, he was readmitted to Thayer Hospital and laryngectomy again advised, the mass now having enlarged to the point of laryngeal obstruction requiring tracheotomy. Following this, the patient agreed to accept treatment and a course of deep x-ray therapy was given because the lesion was believed inoperable. Subsequently the situation was re-evaluated and a total laryngectomy performed on March 11, 1960. He was started on tube feedings on March 12 and immediately his complaints referable to the tube feedings began. Tube feeding consisted of a high carbohydrate, high protein mixture given in a volume of 200 to 280 milliliters. Occasionally the feedings were refused and repeatedly the patient complained that the feedings were giving him faintness, cold perspiration, and nausea. By March 22 the patient was refusing so many feedings and his nutrition was of such concern that further investigation seemed in order. From the amount of tubing outside the patient it was suspected that the distal end of the tube might lie in the small bowel. An x-ray of the abdomen was taken (See Figure 1) showing the Levine



FIG. 1. Showing tube lying doubled in the duodenum.

tube lying doubled in the duodenum. The tube was withdrawn six inches with the same tube feedings being re-instituted. The nursing staff observed a dramatic change in the patient's complaints. Initially the patient's apprehension about the tube feedings continued, but the sensation of faintness and the cold perspiration disappeared completely.

### DISCUSSION

It is especially interesting to note that many of the physiological studies done to clarify the mechanisms of the dumping syndrome have utilized jejunal intubation. There is general agreement among observers regarding the sequence of events when tube feedings, especially those high in carbohydrate content, are instilled in the upper small bowel. These events are reproducible, and although there is variation from individual to individual, there are well established trends which occur. The classic studies by Machella<sup>1</sup> and independently by Duthie<sup>2</sup> indicate that following the instillation of a hypertonic solution in the upper small bowel there is a withdrawal of fluid from the circulating blood volume in amount roughly 200 to 400 milliliters, and with the entry of this fluid into the jejunum distention of the gut occurs. It is not wholly agreed that the distention of the jejunum accounts for the symptoms. An equally prevalent idea championed by Hinshaw<sup>3</sup> in this country and Le Quesne<sup>4</sup> in Great Britain indicts the rather sudden decrease in circulating

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blood volume which is uniformly present in all gastrectomized patients following a high carbohydrate liquid feeding or in normal patients with the feeding instilled by a tube into the duodenum or jejunum. Not all patients, however, suffer from the dumping symptoms. Hinshaw with plethysmographic measurements has shown that those who have dumping symptoms have an increased peripheral blood flow during the period of symptomatology, tending to support the concept that those who have dumping symptoms are those who have an inappropriate autonomic response to the rather rapid contraction in their circulating blood volumes. It is worth pointing out, however, that Machella<sup>1</sup> has shown that jejunal distention by balloon alone can also produce the dumping symptoms. Some patients have the onset of their symptoms so soon after jejunal distention that an inappropriate autonomic response to a contracting blood volume could hardly support this concept. Furthermore, Wallensten<sup>5</sup> states that those who have dumping symptoms seem to have more rapid peristalsis than those who do not have dumping symptoms. Duthie's<sup>2</sup> studies have shown no relationship between blood sugar levels and the dumping symptoms. Electrolyte changes likewise seem unrelated to this picture.

## SUMMARY

A case is presented in which the dumping syndrome appeared following tube feedings in a patient in which the Levine tube had inadvertently been inserted into the duodenum. The pathologic physiology of this situation has been discussed.

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Sunday, April 16, 1961

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Presiding, James A. MacDougall, M.D., Rumford, Council Chairman

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MAINE MEDICAL ASSOCIATION COUNCIL

The Council will meet at the M.M.A. headquarters in Brunswick at 10:00 A.M.

# Chemotherapy Of Cancer

STANLEY C. BECKERMAN, M.D.\*

World War I was in progress. On July 12, 1917, the Germans first used mustard gas in a surprise attack on the allied armies in Europe. This substance, bis (beta-chloroethyl) sulfide, commonly known as mustard gas or sulfur mustard, was first synthesized by Guthrie in England and Niemann in Germany in 1859. Little attention was paid to the effects of this chemical, except for a report on its preparation and vesicant action in 1887. As a military weapon, however, mustard gas immediately became the subject of intensive study, in order to devise methods to prevent its toxic action, and to treat gas victims. While the bone marrow depressant effect of sulfur mustard was noted, most investigators were concerned with its local necrotizing action. After the end of World War I, interest in this substance very quickly subsided.

In 1931, Adair and Bagg, at Memorial Hospital in New York, demonstrated that the intratumoral injection of sulfur mustard in thirteen patients caused measurable tumor regression, but the fear surrounding mustard gas created technical difficulties that interfered with further work. In 1935, Ward prepared nitrogen containing analogues of sulfur mustard. These were suggested as potential war gases, and interest in the nitrogen mustard series once again flared with the onset of World War II. Under conditions of military secrecy, much fundamental work was done during the war, using principally the nitrogen mustard analogue, methyl bis (beta-chloroethyl) amine hydrochloride, known by its code name HN2. In 1946, after military secrecy restrictions were removed, Doctor Cornelius Rhoads summarized the clinical experiences in 160 patients with neoplastic diseases principally of the blood-forming organs. With the lifting of military restrictions, the work on the nitrogen mustards took two major courses. The compound most widely used clinically (HN2) was studied against a variety of tumors in laboratory animals and in various neoplastic conditions in man.

As a second course of action, a search was undertaken for compounds which were related to nitrogen mustard (HN2), which might have fewer side effects, a wider or different spectrum of therapeutic action against the many varied forms of cancer, and therapeutic activity at doses less toxic to normal tissues of the host. It was in this way that an entire new field of therapeutics was born, the chemotherapy of Cancer. Many agents are in broad use or under investigation at present. Table I illustrates how these agents are grouped.

POLYFUNCTIONAL ALKYLATING AGENTS

The process of alkylation generally involves the substitution of an alkyl group for a hydrogen-ion in a molecule. Maximal injury to proliferating cells is produced by nitrogen mustard analogues which contain two or more reactive groups. A nitrogen mustard with a single reactive group is usually about 1/50 to 1/100 as active as a bifunctional or polyfunctional compound. The importance of having at least two such reactive groups is therefore a fundamental characteristic of polyfunctional alkylating agents. Several such agents are listed in Table I. These agents are often referred to as "radiomimetic agents," since there are qualitative similarities between these agents and x-rays. For example, there are similarities in their mutagenic and carcinogenic activities, as well as in specific cytological disturbances, delayed deaths in animals after a single exposure, and in cytotoxic effects on the bone marrow and intestinal epithelium of laboratory animals. The polyfunctional alkylating agents appear to act directly on susceptible cells to cause injury.

There is no evidence that their major cytotoxic effects are indirect, as the result of a systemic disturbance in the host. The tissue which manifest the most severe injury are bone marrow, lymph nodes, intestinal epithelium, and tumor tissue. It has been shown that components of the susceptible cell which are most sensitive to alkylation are the nucleic acids, and in particular those which contain desoxyribonucleic acid (DNA). Injury to its DNA presumably has profound effects on

TABLE I	
CATEGORIES OF CHEMOTHERAPEUTIC AGENTS	
POLYFUNCTIONAL ALKYLATING AGENTS	
Nitrogen Mustard	
Chlorambucil	
TEM	
ThioTEPA	
Busulfan	
ANTIMETABOLITES	
Folic Acid Antagonists (Amethopterin)	
Substituted Purines (6-Mercaptopurine)	
Glutamine Antagonists (6-Diazo-5-Oxo-L-Norleucine)	
5-Fluorinated Pyrimidines (5-Fluorouracil)	
STEROID HORMONES	
Androgens	
Astrogens	
Adrenal Cortical Hormones	
MISCELLANEOUS	
Urethane	
Actinomycins	
Colchicine Analogues	

\*Chemotherapy Service, Thayer Hospital, Waterville, Maine



the function and survival of susceptible cells. The impaired activities of DNA will interfere with cell function and cell division and ultimately cause cell death.

Nitrogen mustard (HN2), (Mustargen®), is a white water-soluble powder which is stable in an acid medium, and which loses its activity slowly in aqueous solution. It is usually made up in a fresh solution containing 1 mg./cc. and is given intravenously. Toxic effects include thrombophlebitis which may occur in the injected vein or a severe local reaction if there is extravasation of the solution outside the vein at the time of injection. Nausea and vomiting occur in about 80 per cent of the patients which may start within fifteen or twenty minutes from the time of injection and continue for several hours. The major late toxic effect of nitrogen mustard is depression of the hematopoietic function of the bone marrow which usually reflects itself in 7 to 10 days in the peripheral blood. Other late effects include temporary interruption of the menses and alopecia, but these improve when treatment is stopped.

Chlorambucil, (Leukeran®), is a poorly soluble substance and is available in enteric coated 2 mg. tablets. This drug is usually given daily and may be given at any time regardless of relation to meals. The daily dosage range is from 6 to 12 mgs./day and this may be continued for several weeks or more, keeping the patient's peripheral blood count and general clinical situation under very close observation to determine whether or not dosage should be increased, decreased, or stopped. This drug is usually well tolerated, but occasionally nausea and vomiting does develop. The most important late toxic effect is bone marrow depression.

Triethylene melamine, (TEM), is a white water-soluble powder which is available in 5 mg. vials for intravenous use by dilution with water or saline, and in 5 mg. scored tablets for oral use. The usual intravenous dose is 0.12 mg./kg. given in one dose or in two or three divided doses. The oral tablet is given before breakfast on an empty stomach with plain water, since it loses its potency rapidly in an acid medium. Either one half or one whole tablet may be given daily until 20-40 mg. have been given in any one month period, depending on the patients response or reaction. The major toxic effect is, once again, bone marrow depression. This drug is fairly well tolerated by mouth, but nausea and vomiting may occur several hours after its administration.

Thio-TEPA is another polyfunctional alkylating agent which is widely used. This is usually made up in a saline solution and given either by intravenous or intramuscular route, the usual dose being 0.15 mg./kg. for five doses. This may also be given orally with a dosage range of from 5 to 10 mg./day and may be continued for from two to four weeks. Bone marrow depression is again the major toxic effect; the therapeutic effects paralleling those of TEM.

Busulfan, (Myleran®), is available for use in 2 mg. oral tablets. The usual dose ranges from 2 to 8 mg./day,

and this may be continued for long periods of time. This drug is used almost exclusively for chronic myelocytic leukemia, and dosage schedules vary according to blood smears, bone marrow depression, etc.

Endoxan, (Cytosan®), is one of the newer polyfunctional alkylating agents. It is available in 100 or 200 mg. vials for intravenous injection, or 50 mg. tablets for oral use. The usual intravenous dose is 150 to 200 mg. daily, giving a total dose of 5 to 7 grams. The usual oral dose is 100 mg./day. This has similar toxic and therapeutic effects as do the other polyfunctional alkylating agents.

The major conditions which respond to these agents are listed in Table II.

TABLE II

<i>Disease</i>	<i>Alkylating Agents of Choice</i>
chronic myelocytic leukemia	busulfan
chronic lymphatic leukemia	chlorambucil, TEM
Hodgkin's disease	HN2, chlorambucil, TEM
lymphosarcoma	HN2, chlorambucil, TEM
mycosis fungoides	HN2, chlorambucil, TEM
polycythemia vera	TEM, chlorambucil
carcinomas of the lung	HN2
ovary	TEM
breast	HN2, chlorambucil
testis	HN2, chlorambucil

Other neoplasms which are reported to occasionally respond to the alkylating agents are choriocarcinomas in the female, carcinoma of the stomach, carcinoma of the cervix, multiple myeloma, melanomata, and Wilm's tumor.

#### ANTIMETABOLITES

Another group of chemotherapeutic agents which has been developed is the group of substances called antimetabolites. A metabolite is a substance which is, by definition, used or produced by a cell in its normal metabolism, reproduction, or growth. For purposes of this discussion, antimetabolites are closely related analogues of these normal metabolites and which act on particular enzyme systems or metabolic processes within the cell. In other words, antimetabolites closely resemble normal metabolites, chemically, and compete with these normal substances for chemical positions during cellular metabolism. They are, in a sense, false building blocks, and once they are erroneously taken in by the cell and incorporated into its chemical structure, the cell will no longer be able to continue its normal metabolism and function, and will ultimately die.

Antimetabolites, at present, are classified as analogues of vitamins, analogues of purines, and analogues of pyrimidines. A classification of the more common antimetabolites may be seen in Table III.

Amethopterin, (Methotrexate®), is available as a 2.5 mg. tablet which is used orally. The daily dose varies

TABLE III

ANTIMETABOLITES	
I. Vitamin Analogues	
A. Anti-folic acid compounds	
1. Aminopterin	
2. Amethopterin (Methotrexate®)	
3. Daraprim and DDMP	
II. Purine Analogues	
A. 6-mercaptopurine and thioguanine	
B. 8-azaguanine	
III. Pyrimidine Analogues	
A. 6-azauracil and 6-azauridine	
B. 5-fluorouracil, 5-fluorouridine, 5-fluoro-2'-deoxyuridine	

between 2.5 and 5 mg. Aminopterin, the other well known folic acid antagonist, is also used orally and is available as 0.5 mg. tablets, the dose varying between 0.25-1.0 mg./day. It might be mentioned at this point, that citrovorum factor, which is a derivative of folic acid and is marketed as Leucovorin®, is available as an antidote for these folic acid antagonists. It may be used in cases of inadvertent overdose of either of the two foregoing drugs and as soon as the error is detected. After approximately four hours, the Aminopterin or amethopterin are generally completely metabolized and this antidote will have no effect. The late toxic manifestations of the folic acid antagonists are ulcerations of the oral cavity and digestive tract, bone marrow depression with leukopenia, thrombocytopenia, and ultimately bleeding.

The most representative purine antagonist is 6-mercaptopurine, (6-MP, Purinethol®). This drug is used orally and is available as 50 mg. tablets. It is administered in a dosage of 2.5 mg./kg. per day. Perhaps the greatest use of these antimetabolites are to be found in the acute leukemias of both children and adults.

The Pyrimidine analogue which is creating a great deal of interest at present is 5-fluorouracil, (5-FU, FU). This drug is still in its investigational phase and is being tested in various centers across the country. This substance, like nitrogen mustard, is administered intravenously. Unlike nitrogen mustard, this substance is easily handled and does not have the vesicant action

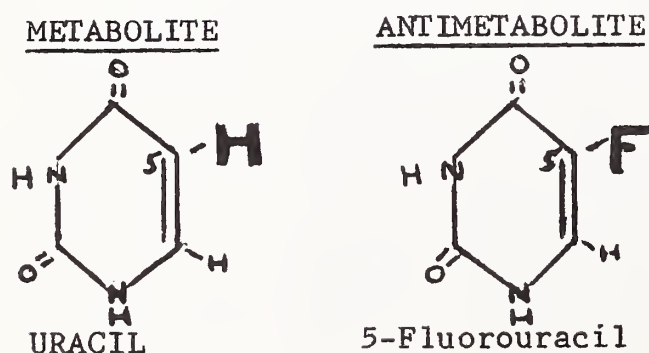
of the mustards. It is given in a dose of 15 mg./kg. per day for about five days, and then about half this dose every other day for four or five more doses. This substance also produces oral ulcerations, diarrhea, digestive tract ulcerations, and bone marrow depression. The patient must be watched closely and the therapy discontinued at any signs of toxicity. Thus far, results of investigation of this drug are encouraging but are, as yet, inconclusive.

#### STEROID HORMONES

Sex hormones are specifically concerned with the stimulation, growth and function of certain tissues of the body, more especially of the breasts and prostate gland. These tissues seem to develop and grow under proper stimulation of hormonal environment. Similarly, neoplasms of these tissues also seem to have their growth stimulated by certain hormonal environmental conditions. The course of patients with malignancies of the breast or prostate may frequently be favorably altered by the administration of the proper androgens or estrogens. The mechanism of action of these hormones is not clearly understood, but it is thought they may work (1) as a pituitary depressant (2) directly on the tumor cell, and (3) as an anti-estrogen (by androgen), or as an anti-androgen (by estrogen). Testosterone propionate is administered intramuscularly in a dosage of 100 mg. three times weekly, whereas fluoxymesterone, (Halotestin®), is an oral preparation which is administered in a dosage of 10-20 mg./day. Diethylstilbestrol is an oral estrogen which is administered in a dosage of 1-15 mg./day. Generally speaking, in carcinomas of the breast in the female, surgery and radiation are employed before hormonal therapy is instituted. In such cases, when there is a need for hormonal therapy, male hormones are used in the pre-menopausal or recently post-menopausal (up to 10 years) patient as the initial therapy, and estrogen therapy is used as the initial form of treatment in women who are more than ten years post-menopausal. Generally speaking, in the pre-menopausal patient who is still menstruating, surgical or roentgen castration should be employed first, before hormonal therapy is instituted. Androgens have as their side effects hirsutism, acne, increased libido, edema, hoarseness, and polycythemia. Estrogens, on the other hand, may produce nausea, breast enlargement, nipple and areolar pigmentation and soreness, edema, anemia, and withdrawal bleeding. Many new forms of androgens and estrogens have been marketed recently and these are under investigation for their anti-tumoral effects as well as possible side effects. Prostatic cancer has been treated effectively with castration and female hormone. In such a case, it is generally felt that a dose of 5 mg. per day of diethylstilbestrol is adequate to produce an objective response.

Cortisone and ACTH will induce regression of various types of human neoplasms. These hormones are useful in the palliative treatment of chronic lymphatic leukemia,

DIAGRAM I





acute leukemia, lymphosarcoma, multiple myeloma, carcinoma of the breast, prostatic carcinoma, and Hodgkin's disease. These hormone-induced remissions are frequently transient and relapse generally occurs if the hormone is withdrawn. Sustained remissions usually require continuous hormone therapy, although frequently refractoriness to the effects of the hormone develops and the treatment is no longer effective. Prolonged administration of large doses of cortisone will frequently produce Cushing's syndrome, but most patients tolerate this condition well, even when treatment is maintained over several years. Cortisone is generally administered in dosages of 100-300 mg. per day by mouth, prednisilone in dosages of 25-100 mg. per day by mouth. When dosage range is high, hypertension, diabetes, and increased susceptibility to infections are frequent complications of this therapy.

#### MISCELLANEOUS AGENTS

There are a number of compounds which have been demonstrated to be useful in human cancer, but whose mechanisms of action have not been classified or is not as yet known. Colchicine is known to interfere with cell division and will produce mitotic arrest in the metaphase, but it is not known whether tumor regression is produced in the same manner. Various analogues of colchicine have been studied, the best known of which is demecolcin, (Colcemid®). This drug, which also produces bone marrow depression, is given in dosages of 3-10 mg. per day by mouth. Another compound in this miscellaneous group is urethan, which is administered by mouth in dosages of 1-4 gm. per day. This drug has its greatest use in multiple myeloma, its method

of action not being known. Prolonged use of this drug will produce bone marrow depression.

Of the Actinomycins, the most widely used derivative is Actinomycin D. This is a contact poison, and is highly corrosive to tissues and veins if it extravasates. It is administered intravenously in doses of 0.5 mg. per day. This drug is still in its research phase, and has produced tumor regression in cases of Wilm's tumor, Hodgkin's disease, rhabdomyosarcoma, and some of the other lymphatic tumors. And, like so many of these other agents, this will produce leukopenia, thrombocytopenia, and bone marrow depression.

#### SUMMARY

More than 250,000 Americans will die of cancer this year. The chemotherapy of cancer is a new tool which is being developed for the treatment of this disease. The drugs which are used are highly toxic and should be administered to patients who are carefully selected. These patients should be thoroughly evaluated and should be kept under close observation during and after treatment. New drugs, and new and interesting methods of administration, are being tested and evaluated every day. For the vast number of people who will develop this dread disease, a new horizon may be unfolding. Chemotherapy is not intended as a substitute for standard methods of surgical or radiation therapy. Today, the chemotherapy of cancer holds forth the promise of palliation, of easing of suffering, and of prolongation of comfortable living. Tomorrow, it may provide the cure.

82 Elm Street, Waterville, Maine

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## Medical Expense Tax Deductions (Carry Over)

### **H.R. 477 To provide a three-year carry-over for medical and dental expenses in excess of the maximum deduction allowable.**

This bill would allow a taxpayer to carry over for the three succeeding years, as may be necessary, medical expenses which exceed the maximum allowable under our tax laws.

Present law permits deduction of expenses paid during taxable year for medical care in excess of 3% of adjusted gross income, but not to exceed \$2,500 multiplied by the number of exemptions, or \$5,000 if the taxpayer is single or \$10,000 if he files a joint return with his spouse.

Author — McDonough (R) Calif.; Introduced January 3, 1961; House Ways and Means Committee.

# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Shift From Big Mental Institutions Advised**

A special committee on planning for mental health last week recommended to Dr. Leroy E. Burney, Surgeon General of USPHS, that government begin taking steps toward ultimate elimination of the large, custodial-type institution for care of mentally ill. They should be replaced with community-based facilities that fit into a coordinated system of statewide health services, said the report signed by 12 hospital administrators, state health leaders and mental health authorities. Dr. Jack C. Haldeman, of USPHS, served as chairman.

Successive steps toward achievement of the goal were said to be: (1) Appointment of state planning bodies with sufficient authority to develop and implement comprehensive patterns of action, and (2) Enactment of state laws to furnish authority and funds for necessary construction and equipment of facilities approved by the planning agencies. (WRMS Jan. 9, 1961)

### **Report Shows Spread Of MD's & Dentists In U.S.**

A newly published Public Health Service report presents, in text and table, a panorama of information on this country's physicians and dentists — where they are practicing, how old they are, comparative numbers in general practice and specialties. "Health Manpower: Source Book, Sec. 10" is the volume (199 pages). Single copies are free upon request to Public Health Service, Dept. of HEW, Washington 25, D. C.

In 1959, two-thirds of the 236,089 doctors whose punch cards were supplied by AMA and AOA were

in private practice. They were almost equally divided between GP's and specialists (three decades ago the former outnumbered the latter 5 to 1).

Physician ratios ranged from 294.7 per 100,000 population in District of Columbia to 67.8 in South Dakota (active practice, non-Federal MD's). Among metropolitan centers, Boston was first with 207 per 100,000.

Median age of all doctors of medicine in mid-1959 was 44.2 years. For those in private practice, it was 46.9; in hospital service, 32.0; in teaching and administration, 46.1; in Federal employ (civilian and military), 32.4.

The North Central region of U. S., with 30 per cent of population, was shown to be educating 32 per cent of the physicians, 36 per cent of the dentists and 43 per cent of the DVM's. (WRMS Jan. 2, 1961)

### **Cohen Report Proposes Broad Range Of Reforms**

The task force report presented to President-elect Kennedy says, "the only sound and practical way of meeting the health needs of most older people is through the contributory social security system." From there it goes on to recommend other significant and costly innovations. Task force chairman was Prof. Wilbur J. Cohen of Univ. of Michigan. MD's serving with him were Dean Clark, James Dixon and Robert E. Cooke. Other members: Joshua Lederberg, Herman M. Somers and Elizabeth Wickenden. They recommended:

Federal grants for construction, expansion and improved operation of medical and dental schools and



other institutions that train paramedical personnel. Also, government scholarships and fellowships. This program would cost about \$270 million annually when under way.

Removal of present allowance of 15 per cent for overhead expenses of research so that Treasury would bear the full cost. This would run up the cost for this item by some \$50 million a year.

Increased grants for building nonprofit nursing homes and chronic disease hospitals, loans for renovation and construction, loans for medical practice groups. Also, adoption of a more liberal policy of money lending to operated-for-profit nursing homes.

Establishment of a National Academy of Health to honor important achievement and serve as a permanent advisory body in this field. Founding of a National Institute of Child Health within the existing National Institutes of Health also was advised.

Any legislation growing out of the Cohen report should, it states, shun any provisions that would socialize medical care; guarantee free choice of physician and hospital; impose no control over practice of medicine. (WRMS Jan. 16, 1961)

### 'Round The Committee In 80 Minutes Goes Ribicoff

Only Senator Carl T. Curtis (R., Neb.), of all Finance Committee members present at Friday's 80-minute quiz of Gov. Ribicoff, could be called a critical questioner. Even so, his doubt was cast not at the appointee's qualifications but at Kennedy programming — notably medical eldercare — which the new Secretary of HEW is committed to support. While unequivocally indorsing the social security approach, Gov. Ribicoff emphasized that the Cohen report is only that, i.e., a *report* that will be subjected to intensive scrutiny and dissection before it forms the basis of any legislative recommendations.

The witness also disavowed socialized medicine. To say that the Kennedy-Forand bill of 1960 provided for medical care, he said, is a misnomer, since it did not make provision for doctors' services.

Senator Curtis cannily reminded the witness that, as a House member, he had voted against creation of the executive department which he has now been named to head. Actually Ribicoff was out of Congress in 1953, when it indorsed the Eisenhower plan for a Dept. of HEW. He did, however, vote against a similar plan in the 82nd Congress which was advanced by President Truman. In so doing he joined a bipartisan majority whose main reason for killing the plan for a new department was — it would hasten advent of socialized medicine.

Ribicoff made this concession Friday: Prodded a bit by Senator Herman Talmadge (D., Ga.), he said he'd be willing to consider a plan to exclude participation of persons who preferred private health care. (WRMS Jan. 16, 1961)

### Drs. Lose In Tax Court:

#### *Cruise Expenses Rejected*

A Columbus, Ohio, physician who claimed an \$1,881 business expense deduction for a Mediterranean cruise on which lectures were given intermittently has had that figure whittled down to \$232. The petitioner to U. S. Tax Court was Dr. Reuben B. Hoover, a general practitioner whose 18-day cruise deduction previously had been disallowed by Commissioner of Internal Revenue on ground that pleasure, not education, was uppermost in Dr. Hoover's mind when he set sail.

Tax Court accepted petitioner's statement that he liked Duke University's medical faculty (five of whose members gave shipboard lectures), but reminded him he could have got the same instruction on Duke campus in only four days and at a fraction of the cruise cost. Court noted drily that cruise ship, SS Vulcania, is not even properly equipped for medical teaching but possesses plenty of "bars and salons."

#### *Foundation Gift Spiked*

Another Ohioan, a vascular surgeon, has lost his appeal to U. S. Tax Court. The issue here was his \$7,550 contribution to Cranley Research Foundation, its tax treatment as a charitable donation and subsequent disallowance of the deduction by tax commissioner. Dr. John Joseph Cranley, Jr., had set up the foundation in 1954 to administer a laboratory for study of patients with peripheral vascular diseases. His Cincinnati practice is wholly in this specialty. (WRMS Jan. 30, 1961)

### Extent Of Federal Aid To States Is Analyzed

A special report by Budget Bureau analyzes U. S. financial aid to state and local governments, as proposed in Federal budget for 1961-62. In areas of health and welfare, these points are brought out:

Public assistance, hospital construction, public health grants, vocational rehabilitation and related projects will consume \$3.3 billion, or about 40 per cent of total leaving U. S. Treasury in state/county aid.

Fifty-six per cent of the \$167 million allocated for Hill-Burton program will be earmarked for nonprofit *private* projects.

Federal aid, 95 per cent of which is now in form of outright grants, has increased almost 3-fold since 1953. (WRMS Jan. 30, 1961)

### New Mode Of Lead Poisoning Hits Scrap Metal Workers

Seven scrap metal workers suffered lead poisoning while using torches to cut heavily painted steel bridge girders, according to a report in the January 21, 1961 *Journal of the American Medical Association*.

A very high concentration of lead was found in the fumes created by the work, Dr. Frederick E. Zimmer, Danville, Pa., said.

Paint chipped from the girders contained 21.6 per cent lead, he said. Samples of air taken where the men were working contained up to 20 times the maximum allowable concentration of lead, he said.

Several of the men became ill within one week of starting the work and all seven were poisoned within five weeks, Dr. Zimmer reported.

All showed classical symptoms of lead poisoning, including gagging, nausea, loss of appetite, muscular weakness, generalized aching, and fatigability, he said. However, only two required treatment and both recovered rapidly, he said.

"In this day of extensive construction and renovation and with reclamation of scrap steel a steadily increasing business it may be anticipated that this mode of rapidly developing lead poisoning will become more important," he said.

#### **Distribution Of Medical Care Dollar 1948, 1957, 1959**

ITEM	1948	1957	1959
Physicians .....	\$ .30	\$ .25	\$ .25
Hospitals .....	.21	.25	.26
Drugs .....	.19	.20	.20
Dentists .....	.11	.11	.11
Health Insurance .....	.07	.08	.07
Appliances .....	.06	.06	.06
All other .....	.06	.05	.05

#### **Drug Dissolves Blood Clot In Dog's Coronary Artery**

A method of dissolving blood clots that form in the coronary arteries and cause heart attacks has proved effective in a dog and might be applied to man, five Chicago physicians reported recently.

The treatment, using a clot-dissolving drug (Thrombolysin), was described by Drs. Houck E. Bolton, Fernando A. Tapia, Hector Cabral, Rogelio Riera, and M. S. Mazel, Edgewater Hospital, Chicago, in a preliminary communication in the January 28, 1961 *Journal of the American Medical Association*.

A blood clot was formed artificially and inserted into the animal's left coronary artery by means of a tube placed in the artery. Examination an hour later showed

that the clot had blocked branches of the artery and caused an acute myocardial infarction.

Then the drug in liquid form was administered through the tube into the left coronary artery at five-second intervals for 50 minutes.

An hour later, the physicians reported, examination revealed that the blocked branches of the artery were open. A half-hour later, they said, "there was no residual evidence of myocardial infarction."

"The case . . . shows remarkably good results, and its clinical application may well be envisioned."

#### **Childhood Ulcers Recur In 50 Per Cent**

The chances are 50-50 that a child who has a duodenal ulcer will suffer additional symptoms later in life, a study indicated recently.

The study involved 92 children, 66 boys and 26 girls, seen at the Mayo Clinic, Rochester, Minn., from 1930 through 1958 and followed up for periods ranging up to 27 years.

A report in the December *American Journal of Diseases of Children* showed that 53 of the 92 had no further difficulty following treatment of the initial episode, but 39 had persistent or recurring symptoms.

Forty-four of the 92 patients were 15 to 37 years old at the time of follow-up, the article said. Of this more mature group, 22 still had ulcer symptoms while 22 had had no further symptoms.

"This suggests an even chance that a child having a duodenal ulcer will have ulcer symptoms when he becomes an adolescent or an adult," Drs. William A. Michener, Roger L. J. Kennedy, and James W. DuShane concluded.

In the 39 cases with recurring symptoms, they added, the interval between initial diagnosis and the recurrence was two years or less in 34 cases. In none did it exceed five years.

#### **Heart Deaths In Maine**

According to the Maine Heart Association, almost half the deaths in Maine during 1959 were caused by heart and circulatory diseases. Of the 10,817 deaths in Maine from all causes in 1959, 4,960 were brought about by heart and circulatory diseases.





## does the bowel take kindly to no-bulk diets?

The bowel, designed to operate best under the stimulus of a bolus of waste, is seldom at rest under normal conditions. But the new bulkless liquid diets which have taken the country by storm, although they may be a useful road to weight loss, may also lead to constipation or bowel irregularities.

Metamucil adds a soft, bland bulk to the bowel contents to stimulate normal peristalsis and also retain water within the stools to keep them soft and easy to pass. Thus Metamucil, with an adequate water intake, will avert or correct constipation in the dieting patient. Metamucil also promotes regularity through "smoothage" in all types of constipation.

SEARLE

# Metamucil<sup>®</sup>

*brand of psyllium hydrophilic mucilloid*

Available as Metamucil powder in 4, 8 and 16 oz. cans, or as the new lemon-flavored Instant Mix Metamucil in cartons of 16 or 30 measured-dose packets.



DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Recommended Procedure For Treatment And Follow-Up Of Tuberculin Positive Reactors

GISELA K. DAVIDSON, M.D.\*

Since the advent of anti-microbial drugs available for the treatment of tuberculosis their importance has been recognized to be of increasing value. Extensive studies, carried out under the supervision of the Committee on Therapy of the American Thoracic Society, have led to the consensus that chemotherapy should be included in

the treatment of all forms of active tuberculosis. More recently the treatment concept has been broadened to include certain persons who have no evidence of tuberculosis other than a positive tuberculin skin test.

The Division of Tuberculosis Control of the Department of Health and Welfare has set forth below recom-

### SCHEDULE FOR TREATMENT AND FOLLOW-UP OF TUBERCULIN POSITIVE PATIENTS

All individuals exposed to cases of active tuberculosis should be skintested. If the first test is negative it should be repeated in three months. The approved method of testing at this time is the Mantoux (intradermal) using intermediate strength PPD-5 TU. Induration exceeding 5 mm. is considered a positive reaction. Reactions should be carefully measured. A positive reaction requires a chest x-ray. A negative reaction does not require a chest x-ray. Certain x-ray findings require treatment.

AGE	X-RAY FINDINGS			TREATMENT		
	<i>Negative</i>	<i>Active lesion</i>	<i>Healed Primary Phase</i>	<i>*Chemo-prophylaxis</i>	<i>**Chemotherapy</i>	<i>No treatment</i>
Under 6 yrs.	X			X		
Under 6 yrs.		X			X	
Under 6 yrs.			X	X		
Over 6 yrs.	X			X		
				If skintest has converted to positive within 12 months.		
Over 6 yrs.		X			X	
Over 6 yrs.			X			X

\*Chemo-prophylaxis: INH, 10 to 15 mgs./kilo of body weight, daily, in divided doses.

\*\*Chemotherapy: INH, 10 to 15 mgs./kilo of body weight, daily, in divided doses and PAS, 0.5 gms./kilo of body weight, daily, in divided doses up to a maximum of 12 gms. daily dose. If not tolerated, give INH alone.

Both types of treatment should be continued without interruption for a minimum of 12-18 months.



## ROUTINE FOLLOW-UP X-RAYS

<i>Initial Film</i>	<i>Follow-Up Film</i>
Negative	Re-x-ray at 3 to 6 month intervals during treatment period, and, as a minimum practice, again yearly from age 15 to 21.
Active lesion	Re-x-ray at 2 or 3 month intervals during treatment period; then yearly.
Healed Primary Phase	Re-x-ray yearly from age 15.
December 1960	Division TB Control, Department Health & Welfare

recommendations for the treatment and follow-up of tuberculin positive reactors. It is hoped that it will serve to emphasize to the practicing physician that an all-out attempt to eradicate tuberculosis will depend to a large extent upon preventing the development of clinically active disease among the contacts of diagnosed active cases.

The drugs recommended have been used for years, and have proven, with few exceptions, to be tolerated by most patients. Private physicians can obtain free drugs for patients financially unable to buy them, by sending prescriptions to the Division of Tuberculosis Control. However, it cannot be emphasized too strongly that anti-microbial drug treatment should not be prescribed either for the treatment of active tuberculosis,

or, prophylactically, for the treatment of positive tuberculin reactors without proper evaluation of the case. Drugs should not be used indiscriminately for patients who cannot benefit by them, such as tuberculin negative adults or children.

The field of chemotherapy, as related to the treatment of tuberculosis, is constantly changing. The Division will endeavor to revise the following schedule as new trends develop.

The Division of Tuberculosis Control is more than willing to offer its consultant services to any physician in the field. The Division will be happy to review x-rays in question and discuss any case with a physician so requesting.

\*Consultant to Division of Tuberculosis Control



## COUNTY SOCIETIES

## ANDROSCOGGIN

President, Waldo A. Clapp, M.D., Lewiston  
Secretary, Donald L. Anderson, M.D., Lewiston

## AROOSTOOK

President, Frederick J. Gregory, M.D., Caribou  
Secretary, Clyde I. Swett, M.D., Island Falls

## CUMBERLAND

President, Robinson L. Bidwell, M.D., Portland  
Secretary, Albert Aranson, M.D., Portland

## FRANKLIN

President, Maynard B. Colley, M.D., Wilton  
Secretary, Philip B. Chase, M.D., Farmington

## HANCOCK

President, Charles H. Knickerbocker, M.D., Bar Harbor  
Secretary, Russell G. Williamson, M.D., Blue Hill

## KENNEBEC

President, Philip Dachslager, M.D., Augusta  
Secretary, Earle M. Davis, M.D., Waterville

## KNOX

President, Robert H. Eddy, M.D., Rockland  
Secretary, Mustafa V. Onat, M.D., St. George

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President, George W. Miller, M.D., Norway  
Secretary, Albert P. Royal, Jr., M.D., Rumford

## PENOBSCOT

President, Richard C. Wadsworth, M.D., Bangor  
Secretary, Philip B. Thomas, M.D., Bangor

## PISCATAQUIS

President, Odd S. Nielsen, M.D., Dexter  
Secretary, Isaac Nelson, M.D., Greenville

## SOMERSET

President, Albert Bernard, M.D., Skowhegan  
Secretary, Harland G. Turner, M.D., Norridgewock

## WALDO

President, Ward A. Albro, M.D., Belfast  
Secretary-Treasurer, Seth H. Read, M.D., Belfast

## WASHINGTON

President, Rowland B. French, M.D., Eastport  
Secretary, Karl V. Larson, M.D., East Machias

## YORK

President, Kenneth E. Leigh, M.D., York  
Secretary, C. W. Kinghorn, M.D., Kittery

## County Society Notes

## ANDROSCOGGIN

December 15, 1960

The Androscoggin County Medical Association met at the Central Maine General Hospital in Lewiston, Maine on December 15, 1960, with 22 members present. The meeting was called to order by the President, Dr. Paul J. B. Fortier.

Doctors Everett C. Higgins and Max Hirshler were recommended to Honorary membership. The Treasurer's report was accepted as read.

The following officers were elected for the coming year:

President: Waldo A. Clapp, M.D., Lewiston

Vice-President: George B. O'Connell, M.D., Lewiston

Secretary-Treasurer: Donald L. Anderson, M.D., Lewiston

Councilors: Wedgwood P. Webber, M.D., Lewiston (1 yr.); Merrill S. F. Greene, M.D., Lewiston (2 yrs.); and Daniel R. Shields, M.D., Lewiston (3 yrs.)

Delegates to the Maine Medical Association House of Delegates: Ross W. Green, M.D., Auburn (1 yr.); Paul J. B. Fortier, M.D., Lewiston (2 yrs.); and Waldo A. Clapp, M.D., Lewiston (3 yrs.). Alternates: Ralph Zanca, M.D., Lewiston (1 yr.); Joelle C. Hiebert, Jr., M.D., Lewiston (2 yrs.); and Wilfrid A. Cloutier, M.D., Lewiston (3 yrs.)

Dr. Waldo A. Clapp then introduced Dr. Daniel F. Hanley, Executive Director, Maine Medical Association, the speaker of the evening. Dr. Hanley showed colored slides of the summer Olympic Games in Rome and described in detail the vast athletic plant which was available for the Games. His narrative was most interesting and was followed by a discussion on the use of so-called stimulating drugs. Dr. Hanley also explained the \$25.00 Special Assessment for the Maine Medical Education Foundation and pointed out that it was approved by the House of Delegates in June 1960.

Doctors Adolfo C. Coussirat and Alexander De la Garza were elected to membership.

Dr. Fortier thanked the society for their cooperation during the past year and turned the meeting over to Dr. Waldo A. Clapp.

Dr. Clapp thanked Dr. Hanley on behalf of the society.

DONALD L. ANDERSON, M.D.  
Secretary

## CUMBERLAND

January 19, 1961

Fifty members were present at the January meeting of the Cumberland County Medical Society which was held at Valle's Steak House in Portland, Maine. After a social hour and dinner the meeting was called to order by the President, Dr. Robinson L. Bidwell. The minutes of the previous meeting were read and approved.

Drs. Doris Sidwell Thompson and Theodore C. Bramhall were recommended for affiliate membership to be voted upon at the June meeting of the House of Delegates of the Maine Medical Association.

Dr. Morrill Shapiro reported that the By-laws committee was in process of revising the County Society By-laws.

Dr. Sydney R. Branson reported on a meeting of the New England States Medical Society Council, which he had recently attended, and informed the membership that a mutual fund was being set up for physicians under the auspices of this council.



Since Cumberland County Medical Society has exceeded 200 members during the past two years, an additional delegate and alternate are authorized. Dr. Emerson H. Drake was elected delegate for two years and Dr. Howard T. Sawyer, Jr. was elected alternate for a period of two years.

The guest speaker for the evening was Dr. Clement Hiebert, who spoke in a very forceful and entertaining manner about his personal experiences with the National Health Service in Britain during the year he spent doing chest surgery at a chest hospital in Bristol, England.

ALBERT ARANSON, M.D.  
*Secretary*

## FRANKLIN

December 12, 1960

Officers of the Franklin County Medical Society elected December 12, 1960 to serve in 1961:

President: Maynard B. Colley, M.D., Wilton  
Vice-President: Gaetano T. Fiorica, M.D., Chisholm  
Secretary-Treasurer: Philip B. Chase, M.D., Farmington  
Delegate to the Maine Medical Association House of  
Delegates: Paul A. Fichtner, M.D., Rangeley. Alter-  
nate: Wallace H. Duffy, M.D., Farmington  
Censor: Hays G. Bowne, M.D., Farmington (2 yrs.)  
PHILIP B. CHASE, M.D.  
*Secretary*

## KENNEBEC

January 19, 1961

A meeting of the Kennebec County Medical Association was held at the Senator Motel in Augusta, Maine on January 19, 1961. Dr. Loring W. Pratt, Vice-President, presided in the absence of the President, Dr. Philip Dachslager.



At the table from left to right are: Drs. M. Tieche Shelton of Augusta; Earle M. Davis of Waterville; Loring W. Pratt, of Waterville, Vice-President of the Association; John F. Reynolds of Waterville, Past President of the Association and John Byrne of Boston, the speaker of the evening.

Dr. Arch Morrell, hospitalized at the Augusta General, was presented with a gold key for his watch chain as a token of the Association's appreciation to him for his work as Secretary-Treasurer from 1947 through 1960.

Dr. Robert L. Ohler of the Veterans Administration Center at Togus explained the function of the new poison control center at Togus. An emergency man power committee was

formed as a part of the civil defense program with Drs. Charles E. Towne of Waterville, Allan J. Stinchfield of Augusta, and Frank B. Bull of Gardiner as members.

Dr. Ovid F. Pomerleau announced that the Sister's of Charity are beginning a construction program for a new Sister's Hospital in Waterville.



Dr. Byrne

Dr. John Byrne of the Boston University School of Medicine faculty and chief surgeon of the Boston University Surgical Staff at Boston City Hospital, was the speaker of the evening. His subject was "Some Aspects of Acute Cholecystitis."

EARLE M. DAVIS, M.D.  
*Secretary*

## PENOBSCOT

January 17, 1961

The annual meeting of the Penobscot County Medical Society was held at the Tarratine Club in Bangor on January 17, 1961 with Dr. Albert C. Todd, presiding. Dr. Todd opened the meeting by introducing the following guests: Dr. Rodensky and Dr. Coban of Dow Air Force Base; Dr. Timms, intern at the Eastern Maine General Hospital and Dr. James J. Brod, Orthopedic Surgeon of Bangor.

The speaker of the evening, Dr. Herbert Selenkow of the Peter Bent Brigham Hospital and Harvard Medical School, was introduced by Dr. Robert O. Kellogg. Dr. Selenkow spoke on the subject: "Some Aspects on the Treatment of Thyroid Disease." There was a question and answer period following the formal presentation.

At the business meeting the minutes of the October and November meetings were read and approved. The minutes of the December meeting of the Executive Council were read and approved.

Resolutions on the death of Dr. Peter S. Skinner were read.

Dr. Gardner N. Moulton made the motion that the secretary write to Dr. Daniel F. Hanley to find the results of his investigation of malpractice insurance rates and the motion was approved.

Dr. Mason Trowbridge, Jr. spoke briefly on Anti-Vivisectionist bills which are to be considered by the U. S. Congress and Senate this year. Dr. Albert C. Todd asked members of the

County Society to write to the state representatives in Congress and the Senate to express opposition to the passage of such bills.

Dr. Asa C. Adams, Delegate to the American Medical Association, emphasized the importance of appointing to State and National Committees only physicians who will take an interest in the work of these committees and attend necessary meetings.

Dr. James J. Brod was elected to membership in the Penobscot County Medical Society.

The following slate of officers was elected for 1961:

President: Richard C. Wadsworth, M.D., Bangor

President-elect: Clement S. Dwyer, M.D., Bangor

Secretary: Philip B. Thomas, M.D., Bangor

Treasurer: Benjamin L. Shapero, M.D., Orono

Councilor: Paul W. Burke, M.D., Newport (3 yrs.)

Dr. Albert C. Todd thanked the officers and the society for their support and expressed his hope that Dr. Richard C. Wadsworth would be accorded the same. Dr. Wadsworth, President, made appropriate acceptance remarks.

PHILIP B. THOMAS, M.D.  
*Secretary*

## HANCOCK

January 11, 1961

The January meeting of the Hancock County Medical Society was held at the Hancock House in Ellsworth, Maine. Those members present were: Drs. Arthur M. Joost, Jr., Elizabeth E. Williamson, Robert F. Russell, Thomas W. Williams, Herbert T. Wilbur, Jr., Philip L. Gray, Harry Kopfmann, James H. Crowe, Bradley E. Brownlow, W. Edward Thegen, Marcus A. Torrey, Llewellyn W. Cooper, Silas A. Coffin, and Raymond E. Weymouth. Guests present were Dr. Daniel F. Hanley, Dr. Paul H. Pfeiffer and Dr. Janet Barnes.

The meeting was immediately turned over to Dr. Hanley, who presented a talk and slide review of the Olympic Games. Dr. Hanley and Dr. Pfeiffer presented an informative discussion of the proposed Medical Education Fund, which was greatly enjoyed and appreciated by all present.

The meeting was adjourned by the President, Dr. Charles H. Knickerbocker.

RUSSELL G. WILLIAMSON, M.D.  
*Secretary*

## YORK

January 11, 1961

The annual meeting of the York County Medical Society was held at the Webber Hospital, Biddeford, Maine on January 11, 1961.

A social hour was held from 12:00 Noon to 1:00 p.m. This was followed by a fine steak dinner which was served by the hospital in the nurses dining room.

The meeting was called to order by the President, Robert F. Ficker, M.D.

Following the reading of the Secretary-Treasurer's annual report the following officers were elected:

President: Kenneth E. Leith, M.D., York

Vice-President: Marcel D. Ouellette, M.D., Sanford

Secretary-Treasurer: Charles W. Kinghorn, M.D., Kittery

Delegates to the Maine Medical Association House of Delegates: Robert F. Ficker, M.D., Kennebunkport;

Roger J. P. Robert, M.D., Saco; and Robert D. Vachon, M.D., Sanford. Alternates: Kenneth E. Leith, M.D., York; Ruth E. Endicott, M.D., Ogunquit; and Alvin A Hoffman, M.D., York

Censors: Stephen A. Cobb, M.D., Sanford; Harry Lapirow, M.D., Kennebunk; and Paul S. Hill, Jr., M.D., Saco

CHARLES W. KINGHORN, M.D.  
*Secretary*

## KNOX

January 10, 1961

Dr. Robert H. Eddy, of Rockland, was elected President of the Knox County Medical Society at the January meeting which was held at the Thorndike Hotel in Rockland, Maine. Other officers elected were:

Vice-President: William A. McLellan, M.D., Camden

Secretary-Treasurer: Mustafa V. Onat, M.D., St. George

Delegates to the Maine Medical Association House of

Delegates: Hugo Hochschild, M.D., Thomaston (1 yr.)

and Merrill J. King, Jr., Rockland (2 yrs.). Alter-

nate: Johan Brouwer, M.D., Rockland (1 yr.)

Censors: Edward K. Morse, M.D., Rockland (1 yr.); Wesley N. Wasgatt, M.D., Rockland (2 yrs.) and John A. Root, M.D., Rockland (3 yrs.)

Dr. William Ward, of Rockland, was elected to membership.

Mr. Richard Nellson, Director of Blue Shield from Portland, Maine gave a very informative discussion regarding Blue Cross and Blue Shield, which was followed by a most vigorous question and answer session.

JOHN A. ROOT, M.D.  
*Secretary*

## New Members

### ANDROSCOGGIN

Adolfo C. Coussirat, M.D., St. Mary's General Hospital, Lewiston

Alexander M. De la Garza, M.D., 111 Webster Street, Lewiston

### CUMBERLAND

Merle S. Bacastow, M.D., Maine Medical Center, Portland

Joseph C. Denniston, M.D., Box C, Pownal

Tibor Doby, M.D., 131 State Street, Portland

Robert S. Galen, M.D., 131 State Street, Portland

Richard A. Marshall, M.D., 22 Bramhall Street, Portland

### PENOBSCOT

James J. Brod, M.D., 51 Grove Street, Bangor

## Deceased

### ANDROSCOGGIN

William J. Fahey, M.D., 17 Frye Street, Lewiston, January 8, 1961

Ward J. Renwick, M.D., 102 Goff Street, Auburn, January 12, 1961

### AROOSTOOK

Joseph A. Donovan, M.D., 83 Cushing Street, Belmont, Massachusetts, January 29, 1961

### PENOBSCOT

Walter L. H. Hall, M.D., 130 Middle Street, Old Town, February 2, 1961



# Announcements

## Pineland Hospital And Training Center Pownal — Maine Conference Room — Treatment Building

1961		
March 2	Projective Testing	11:00 A.M.
March 9	Reading Disabilities and their Diagnostic Implications	11:00 A.M.
March 16	Motor Disturbances and Their Treatment	11:00 A.M.
March 23	Pernicious Anemia and its Neurological Complications	11:00 A.M.
March 30	Psychological Testing as an Aid in the Determination of Organic Factors	11:00 A.M.
March 16	Clinicopathological Conference	10:00 A.M.

## Hypnosis Course Offered To Dentists, Physicians And Psychologists

For the sixth successive year a graduate course in Medical and Dental Hypnosis will be offered to Dentists, Physicians and Psychologists by the Tufts University School of Dental Medicine. There will be daily and evening sessions, March 16th through 23rd, 1961 (Sunday excepted), Tuition \$200, Class limited.

The staff of instructors will consist of experienced teachers, outstanding authorities in the fields of dentistry, general medicine, psychiatry, psychology, obstetrics, anesthesiology, who have had a wide experience in clinical hypnosis and research in this field.

For further information write: Division of Post-Graduate Studies, Tufts University School of Dental Medicine, 136 Harrison Avenue, Boston, Massachusetts or Course Director, Lawrence M. Staples, D.M.D., 311 Commonwealth Avenue, Boston, Massachusetts.

## The American College Of Allergists

The American College of Allergists Graduate Instructional Course and Seventeenth Annual Congress will be held March 12 through 17, 1961 at the Statler Hilton, Dallas, Texas.

For information write: John D. Gillaspie, M.D., Treasurer, 2141 14th Street, Boulder, Colorado.

## Course In Laryngology And Bronchoesophagology

The Department of Otolaryngology, University of Illinois College of Medicine, will conduct a postgraduate course in Laryngology and Bronchoesophagology from March 13 through March 25, 1961, under the direction of Paul H. Holinger, M.D.

Registration will be limited to fifteen physicians who will receive instruction by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants will please write directly to the De-

partment of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

## Gill Memorial Eye, Ear And Throat Hospital

The Gill Memorial Eye, Ear and Throat Hospital will hold its Thirty-Fourth Annual Spring Congress in Ophthalmology and Otolaryngology and Allied Specialties on April 3 through April 8, 1961. There will be twenty guest speakers and fifty lectures.

For further information write to: Elbyrne G. Gill, M.D., Gill Memorial Eye, Ear and Throat Hospital, Seven Hundred Eleven South Jefferson Street, Roanoke, Virginia.

## The West Virginia Academy Of Ophthalmology And Otolaryngology

The West Virginia Academy of Ophthalmology and Otolaryngology announces that its Fourteenth Annual Spring meeting will be held April 6 through 8, 1961 at the Greenbrier Hotel, White Sulphur Springs, West Virginia.

The guest speakers for the three-day session will include: Harvey E. Thorpe, M.D., Pittsburgh, Pennsylvania; John J. Shea, M.D., Memphis, Tennessee; F. Johnson Putney, M.D. and Irving W. Leopold, M.D. of Philadelphia, Pennsylvania. Also Mr. Philip Salvatori of Oberg Laboratories will present an entire afternoon session devoted to "Contact Lens." There will be a registration fee of \$25.00.

For any additional information, please contact the Secretary, Dr. Worthy W. McKinney, 109 East Main Street, Beckley, West Virginia.

## American Board of Obstetrics and Gynecology

The next scheduled examinations (Part II), oral and clinical, for all candidates, will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from April 8 through 15, 1961. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examination will be notified of their eligibility for the Part II Examinations as soon as possible.

Current Bulletins of the American Board of Obstetrics and Gynecology, outlining the requirements for application, may be obtained by writing to the Secretary: Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio.

## Western Reserve University

The Law-Medicine Center of Western Reserve University has announced the Police Training program for the spring semester, 1961.

*Criminal Law for the Law Enforcement Officer* will be offered February 20-May 29 on Mondays, 7:30-9:30 p.m.

Tuition is \$60. *Police Administration* will be offered Thursdays 7:30-9:30 p.m., February 23-June 1. Tuition is \$60.

During the month of March, a full time, comprehensive *Police School* will be offered, 8:30 a.m. to 4:30 p.m. daily, Saturdays, 8:30 a.m.-12:30 p.m. Tuition for the school is \$225.

An Institute on *Alcohol Intoxication* will be presented on Friday and Saturday, April 28-29. Tuition will be \$25. The eighth annual Institute on *Science in Law Enforcement* will be held June 19-24. Tuition for the Institute will be \$75.

Convenient housing is available for the programs. Municipal police departments within Cuyahoga County are eligible for tuition aid from Cuyahoga County for each officer who registers.

Contact Oliver Schroeder, Jr., Director, The Law-Medicine Center, Western Reserve University, Cleveland 6, Ohio for further details.

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### Department Of Health And Welfare Division Of Maternal And Child Health Including Services For Crippled Children

#### Orthopedic Clinics

- Portland — Maine Medical Center  
9:00 a.m.: Jan. 9, Feb. 13, Mar. 13
- Lewiston — Central Maine General Hospital  
9:00 a.m.: Jan. 20, Feb. 17, Mar. 17
- Rumford — Community Hospital  
1:30 p.m.: Mar. 15
- Waterville — Thayer Hospital  
1:30 p.m.: Feb. 23
- Rockland — Knox County Hospital  
1:30 p.m.: Feb. 16
- Machias — Washington County Normal School  
1:30 p.m.: Jan. 18
- Presque Isle — Northern Maine Sanatorium  
9:00 a.m. and 12:30 p.m.: Jan. 10, Mar. 8
- Houlton — Aroostook General Hospital  
9:00 a.m.: Mar. 7
- Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: Jan. 11
- Bangor — Eastern Maine General Hospital  
1:00 p.m.: Jan. 26, Mar. 23  
(Several will be two-session clinics)

#### Cardiac Clinics

- Portland — Maine Medical Center  
9:00 a.m.: Every Friday (Holidays Excepted)
- Bangor — Eastern Maine General Hospital  
9:00 a.m.: Jan. 13, 27, Feb. 10, 24, Mar. 10, 24

#### Cleft Palate Evaluation Clinics

- Portland — Maine Medical Center  
10:00 a.m.: Feb. 14

#### Pediatric Clinics

- Bangor — Eastern Maine General Hospital  
1:30 p.m.: Jan. 27, Feb. 24, Mar. 24
- Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: Mar. 22
- Presque Isle — Northern Maine Sanatorium  
1:30 p.m.: Jan. 25
- Waterville — Thayer Hospital  
1:30 p.m.: Jan. 3, Feb. 7, Mar. 7

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## Letter To The Editor

### More About Medical School Tuition

Dear Doctor Hanley:

I read with interest the letter to the *Journal of the Maine Medical Association* by Mr. Dooley of the University of Vermont. I sympathize with his concern over the high cost of medical school tuition. (tuition for Harvard Medical School is also \$1500) I also am concerned over the fall in medical school attendance from the State. (reference to the letter in the same issue by Mr. Bunnell)

I do feel, however, that to subsidize any one institution would not be striking at the root of the problem. Wouldn't it be more logical to subsidize *any* school that accepted a student from the State? This would encourage more students, more schools and stimulate more interest in the State itself in the entire problem of medical education.

If the Maine Medical Association is going to propose legislation concerning this matter, I sincerely hope you consider this point of view.

JOHN P. DOW  
Boston, Massachusetts

### FOR SALE

Large recently renovated doctor's home suitable for both residence and office for sale.

House ½ block from fully qualified 30-bed hospital in Norway-South Paris. This area badly in need of Surgeons and General Practitioners.

Norway-South Paris area has many diversified factories and industries. It is county seat of Oxford County.

For further information write to: George F. Miller, M.D., Norway National Bank Bldg., Norway, Maine.

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# The Journal of the Maine Medical Association

Volume Fifty-Two

Brunswick, Maine, March, 1961

No. 3

## Some Newer Ideas About Jaundice And Bilirubin Metabolism

MILAN A. CHAPIN, PH.D., M.D.

UNTIL very recently we knew little about jaundice because of a lack of knowledge about the metabolism of bilirubin. For many years it had been known that jaundice was due to an accumulation of bilirubin ("bile pigment") in the blood and tissues of the body, and that the bilirubin tended to be present in two main forms, or physico-chemical types: one was that which accumulated in the hemolytic syndromes and the other was that which increased in obstructive jaundice. This differentiation into so-called medical and surgical jaundice was greatly aided by the van den Bergh reaction which gave an indirect reaction in the former and a prompt direct reaction in the latter. It was thought that the bilirubin giving the indirect reaction and requiring alcohol in the reaction tube for its detection was that which was combined with serum globin and was therefore less sensitive to the color reagent. The direct-reacting bilirubin was thought to be the result of hepatic cell splitting of the bilirubin-globin complex and in the form of sodium bilirubinate. In this manner, the van den Bergh reaction served as a basis for the classification of Rich, separating the two into regurgitation (obstructive) and retention (non-obstructive) types. In historical perspective, this represented our knowledge concerning jaundice from the time Ehrlich introduced diazotized sulfanilic acid for the detection of bile in 1883, and for the 44 years since van den Bergh (1916) de-

scribed the direct and indirect reactions and their varying presence in the two main types of clinical jaundice.

In the past three years, however, the use of newer laboratory technics in investigations of bilirubin metabolism has yielded information giving us a much clearer insight into the problem of jaundice. Schmidt<sup>1</sup> in 1956 and Billing, Cole and Lathe<sup>2</sup> in 1957, reported that direct-reacting bilirubin was found to contain glucuronic acid, whereas indirect-reacting bilirubin not only lacked this, but was in essence just free bilirubin. Much initial work leading to this knowledge had been accomplished by Cole and his group<sup>3</sup> since 1953.

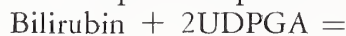
Thus, after over forty years use of the van den Bergh reaction in clinical medicine, a satisfactory explanation of its two types of reaction with bilirubin has been found. By the same mechanism in which other excretory products of the body are detoxified in the liver by conjugation with glucuronic acid, bilirubin, via hepatic enzyme systems, becomes the mono- or diglucuronide conjugation product in an easily excretable form.

Bilirubin + glucuronic acid = bilirubin-diglucuronide  
Free bilirubin is insoluble in water but more soluble in lipid, the latter property correlating its excess in the blood to the occurrence of kernicterus, whereas the glucuronide is soluble in water.

Subsequent to this discovery of the chemical structures of the two types of bilirubin known to be present in the blood, there have appeared reports explaining the basic reactions involved in the important general meta-

\*From the Department of Medicine, Central Maine General Hospital, Lewiston.

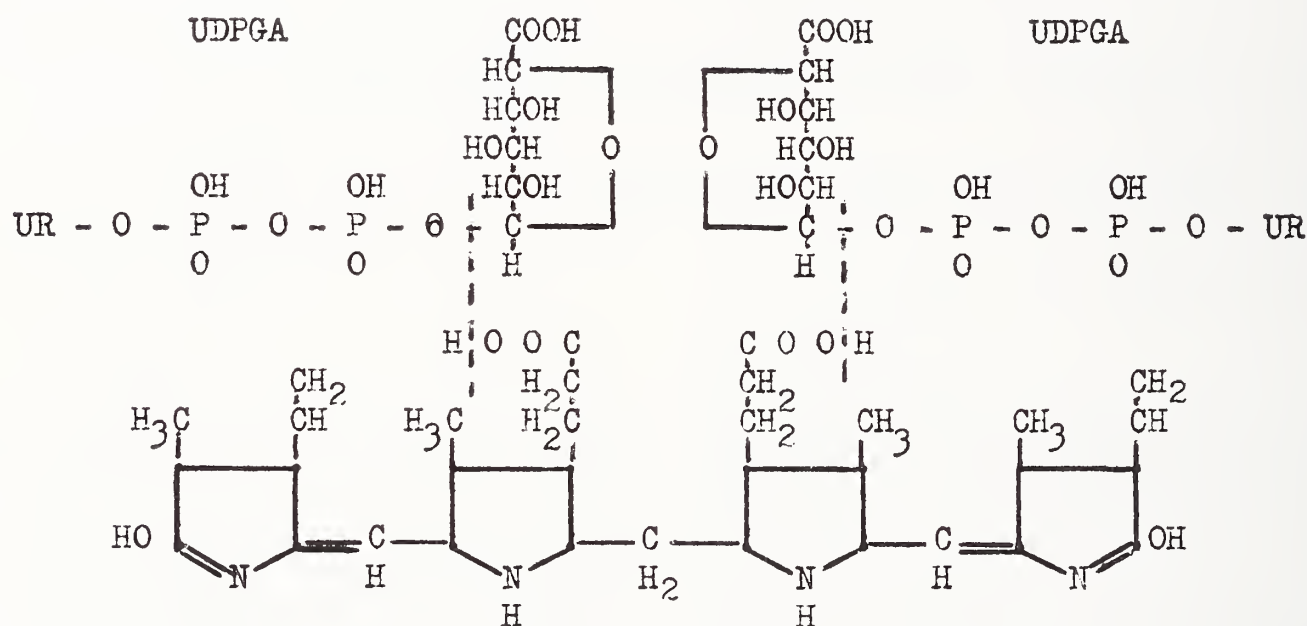
bolic pathway of glucuronide formation. From studies of liver cell homogenates, Dutton and Story<sup>4</sup> reported that the formation of glucuronides in the liver is dependent on the presence of a heat-sensitive enzyme and a heat-stable coenzyme. The latter has been identified as uridine diphosphoglucuronic acid (UDPGA), one of a group of known uridine compounds involved in the biosynthetic transfer of saccharide units. In this conjugation, is the acceptor compound:



Either a mono- or a diglucuronide conjugation product may be formed, depending upon its combination with one or with both carboxyl groups of the propionic acid side chains of the bilirubin nucleus. The following illustrates the mode of cleavage and of conjugation of bilirubin with two moles of UDPGA and formation of the

icterus in the newborn and particularly in the premature infant is thus readily explainable. The livers of premature and newborn infants have been shown<sup>5</sup> to have defective glucuronide formation and it appears that this is one hepatic function which does not approach normal efficiency until about 10 days after birth. When the serum concentration of unconjugated bilirubin reaches a certain limit, its neural lipid solubility becomes clinically manifest in the form of kernicterus.

Other studies of this enzyme system have shown it to be similarly deficient and the basic cause of the jaundice of Gilbert's disease, otherwise called familial non-hemolytic jaundice. In this rather rare disease, the chronic mild jaundice occurs in otherwise normal persons and in the presence of otherwise normal hepatic function. Liver tissue homogenates obtained from two



diglucuronide. Both the mono- and diglucuronide products may be found in serum, though the latter is the most common. Both are water soluble.

It is by this mechanism that many drugs, menthol, salicylates, alcohols, phenols, the steroid hormones, etc., are detoxified in the liver to form soluble and excretable compounds.

The enzyme which catalyzes this reaction is a transferase, and, since glucuronic acid is the transferred unit, it is called a glucuronyl transferase. The reaction is a general one and a number of saccharide units other than glucuronic acid can be transferred to various acceptor substances having phenolic, alcoholic, carboxylic or amino groups.

The demonstration of this enzyme system has quickly resulted in studies relating its importance in clinical medicine. Newborn infants have been found to have a relative deficiency of the glucuronyl transferase enzyme in their livers, causing a slowed rate of conjugation with resultant accumulation of indirect-reacting bilirubin in their blood. The frequent presence of

adults with this disease<sup>6</sup> have exhibited diminished glucuronyl transferase activity. Another heritable disease, congenital nonhemolytic jaundice with kernicterus, has been similarly explained<sup>7</sup>.

One attempt to apply this improved knowledge of bilirubin metabolism therapeutically has been reported by Danoff, Boyer and Holt<sup>8</sup>. The authors treated 25 jaundiced newborn with intravenous sodium glucuronate in glucose solution and reported clinical improvement in 21. This application of the mass action effect of sodium glucuronate has not been corroborated by others<sup>9</sup>.

#### SUMMARY

Our concepts of jaundice have changed as a result of recent knowledge concerning the metabolism of bilirubin. The discovery of the chemical nature of direct and indirect-reacting types of bilirubin in the van den Bergh reaction as bilirubin-glucuronide and as free bilirubin, respectively, has led to knowledge of the transferase enzyme system in liver cells. This enzyme is now



known to effect transfer of glucuronide units to bilirubin, changing the latter to a water soluble and excretable form. A deficiency of this enzyme has been demonstrated in livers of newborn and premature infants, explaining the jaundice which they frequently exhibit. Some diseases characterized by jaundice or kernicterus are probably due to the same defective enzyme system. This review of newer concepts of bilirubin metabolism, similar to that appearing in a recent editorial in the *Journal of the American Medical Association*, may promote a clearer understanding of the problem of jaundice.

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## Mortality Rate Drops

Between 1900 and 1960, Health Information Foundation reports, the mortality rate in this country dropped from 17.2 per 1,000 population to 9.4 — a decline of 45 per cent.

Since 1900 the U.S. mortality rate has gone down 45 per cent, thanks largely to the fact that medical science has brought the contagious diseases under greater control. According to Health Information Foundation, the death rate for influenza and pneumonia has dropped 86 per cent in the last 60 years, while that for tuberculosis has gone down 97 per cent.

Since the turn of the century, the mortality differential between nonwhites and whites in this country has narrowed. In 1900 the mortality rate for the nonwhite population exceeded that for the white by 47 per cent. But by 1959 the rates were 9.9 and 9.4 per 1,000 persons — an excess for nonwhites of only 5 per cent. - - - Health Information Foundation.

Women have benefited more than men from declining death rates in this country, Health Information Foundation reports. The mortality rate for females dropped from 16.5 per 1,000 population in 1900 to 8.0 in 1959, a decline of 51.5 per cent. For males the corresponding drop was from 17.9 to 10.9, or 39.1 per cent.

# Staphylococcus Pneumonia

HENRY C. THACHER, M.D. and LOUIS FISHMAN, M.D.

THERE have been numerous reports in the medical literature dating from 1955 stressing the apparent increasing incidence of staphylococcal pneumonia. The purpose of this communication is to report on twelve cases of †primary pneumonia due to staphylococcus seen on the pediatric service of the Central Maine General Hospital in the past five years and to underscore the medical and surgical management of these cases.

Criteria for diagnosis was the presence of primary pneumonia, typical x-ray findings and positive culture for staphylococcus from either of two sources, throat culture, blood or empyema fluid. Roentgenologic diagnosis was possible in the majority of cases because of the appearance of the films showing tension pneumothorax, pyopneumothorax, or massive pulmonary involvement. These typical x-ray findings have been previously reported by Schultz and co-workers in 1959<sup>1</sup> who concluded that because these characteristics are so frequently present roentgenological diagnosis could be relied on in 85% of their cases. Identification of the organism from the examination of the chest fluid by thoracentesis or by intubation at the time of surgical intervention was possible in ten of the twelve cases under present consideration. Blood cultures were positive in 20%.

Analysis of the cases as to age incidence reveals that seven patients were under the age of one year which is in keeping with the experience of other authors reporting on this disease. Two cases were fifteen months old, two were seven and one fourteen years. The mortality was 33% which compares not unfavorably with that reported by Pryles in 1958<sup>2</sup>.

Symptoms prior to admission were not uniform but the majority of patients showed involvement of the upper or upper and lower respiratory tract for a few days to two weeks prior to admission. Four patients, all infants, had signs suggesting bronchiolitis or asthmatic bronchitis to the examining physician. One patient (No. 8) presented with nausea, vomiting, and periumbilical pain and an appendectomy was performed before the pneumonia was clearly recognized. The youngest patient (No. 4), 18 days of age had failed to gain weight, was feeding poorly, and had a cyanotic episode precipitating admission. Associated infection occurred in two patients but none of our patients presented with furunculosis or pustules which would have made the physicians consider the possibility of staphylococcus pneumonia. The oldest patient was convalesc-

ing from varicella when he was exposed to a nurse in an infirmary who had active furunculosis. We did not screen each family with respect to the incidence of a possible staphylococcus infection which had pre-existed by several weeks the onset of illness in our patients. In this regard attention is called by Eichenweld<sup>18</sup> who stressed that individuals can harbor virulent staphylococcus in their nose and throats for indefinite periods of time and only succumb to illness coincident with a severe virus infection which develops later.

A summary of two typical cases is presented:

(No. 11) A three week old female infant was admitted to St. Mary's General Hospital, Lewiston on October 11, 1959 with a history of upper respiratory infection of two days duration. Just prior to entry she became cyanotic and had difficulty with respiration. Examination showed a well developed infant with minimal generalized cyanosis, dyspnea and expiratory grunt. There was no gross lymphadenopathy; the heart rate was regular, sounds of good quality, and no murmur was heard. The lungs were clear to auscultation but there was minimal retraction of the intercostal spaces with inspiration. Physical examination was otherwise not remarkable.

Laboratory Examination and Course: WBC 8,600, 62 lymphs, 38 mature neutrophils, HGB 13 gms., RBC 4,170,000. Urinalysis; specific gravity 1010, 50 gms.% albumin, no sugar or acetone. CSF total protein 35 mgs.%, sugar 52 mgs.% and cell count 0. Culture of the nasopharynx showed non hemolytic staphylococcus aureus. X-ray showed partial atelectasis of the medial basal sector of the right lower lobe. She was treated

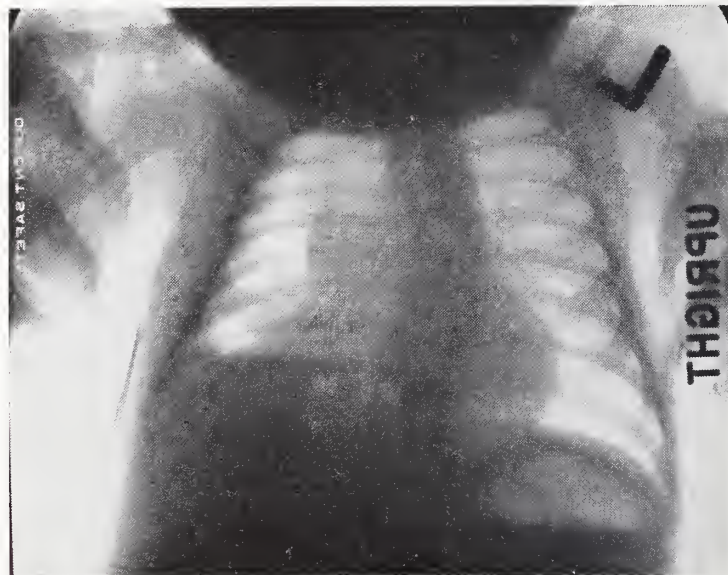


FIG. 1 (NO. 11) — X-ray taken on the fourth hospital day revealing tension pneumothorax on the right and partial collapse of the right lung.

†"Primary" is defined as appearance of pneumonia as the predominant feature of illness in children in whom there was no prior debilitating disease.



<i>Patient</i>	<i>Age</i>	<i>Sex</i>	<i>Onset</i>	<i>Bact. Study</i>	<i>Complications</i>	<i>Treatment</i>	<i>Result</i>
2/26/55 No. 1	9 mos.	M	URI with fever and cough. Improved on antibiotics. Relapsed 2 days prior to adm. Adm. diagnosis-Bronchiolitis.	non-hemolytic staphylococcus aureus from chest fluid.	Tension pyopneumothorax on 3rd day of hospitalization.	Thoracentesis Penicillin Tetracycline Streptomycin	Died
11/18/55 No. 2	3 mos.	M	URI with fever and cough. Inadequate antibiotics with relapse 2 days prior to admission. Had furunculosis in post-natal period.	hemolytic staphylococcus aureus from pleural fluid.	empyema	Open surgical drainage by rib resection. Penicillin Streptomycin Aureomycin® Chloromycetin® Erythromycin	Died
10/22/56 No. 3	5 mos.	M	Insidious onset of pneumonia with persistent cough for 2 mos. Progressive palor. Low grade fever for 1 week. Mother had had a breast abscess.	hemolytic staphylococcus from blood culture and pharynx.	none	Penicillin Streptomycin Achromycin Albamycin® Blood transfusion.	Recovered
1/28/57 No. 4	18 days	F	Failure to feed. Respiratory distress and cyanosis.	non-hemolytic staphylococcus albus from pleural fluid and pharynx	Empyema	Penicillin Streptomycin Chloromycetin Erythromycin	Died
2/25/57 No. 5	15 mos.	M	Burns 6 weeks prior to entry. Abrupt onset of pneumonia.	hemolytic staphylococcus albus from chest fluid and pharynx	Empyema	Closed thoracotomy with subaqueous deflation. Penicillin Streptomycin Albamycin	Recovered
3/ 6/57 No. 6	7 yrs.	F	Insidious chest cold with cough, temperature elevation, vomiting and diarrhea. ? asthmatic bronchitis.	non-hemolytic staphylococcus aureus from lungs post-mortem	Multiple pulmonary abscesses	Chloromycetin Penicillin Streptomycin Hydrocortisone	Died
1/24/58 No. 7	6 mos.	M	Cough and coryza for 4 days, rising temperature, wheezing for 3 days and progressive respiratory difficulty for 2 days.	non-hemolytic staphylococcus aureus from chest fluid.	left pneumothorax	Closed thoracotomy. Chloromycetin Erythromycin Albamycin	Recovered
3/18/58 No. 8	7 yrs.	M	Nausea, vomiting, abdominal pain. Appendectomy was done. 2 days later cough appeared with evidence of pneumonia on the left.	non-hemolytic staphylococcus aureus from chest fluid.	Empyema	Closed thoracotomy. Instillation of Varidase. Combiotic Achromycin® Chloromycetin Erythromycin	Recovered
5/21/58 No. 9	8 mos.	F	Abrupt onset. Fever and cough. Failure to respond to Achromycin.	non-hemolytic staphylococcus from pharynx.	Multiple pulmonary cavities.	Erythromycin Chloromycetin Albamycin	Recovered

Patient	Age	Sex	Onset	Bact. Study	Complications	Treatment	Result
7/15/59 No. 10	14 yrs.	M	Measles 12 days prior to admission. Acute onset with precipitous rise in temperature 48 hours prior to admission.	Hemolytic staphylococcus aureus by blood culture.	Pleural effusion. Pericarditis.	Achromycin Erythromycin Chloromycetin Albamycin	Recovered
10/11/59 No. 11	3 wks.	F	Insidious URI and failure to gain weight. Cyanotic episode prior to admission.	non-hemolytic staphylococcus aureus from chest fluid.	Tension pneumothorax.	Closed thoracotomy. Chloromycetin Erythromycin	Recovered
12/13/60 No. 12	15 mos.	F	Insidious onset 2 weeks prior to admission of pneumonia with failure to respond to antibiotics.	non-hemolytic staphylococcus aureus, coagulase positive from pleural fluid and pharynx.	Massive empyema	Closed thoracotomy. Chloromycetin Erythromycin	Recovered

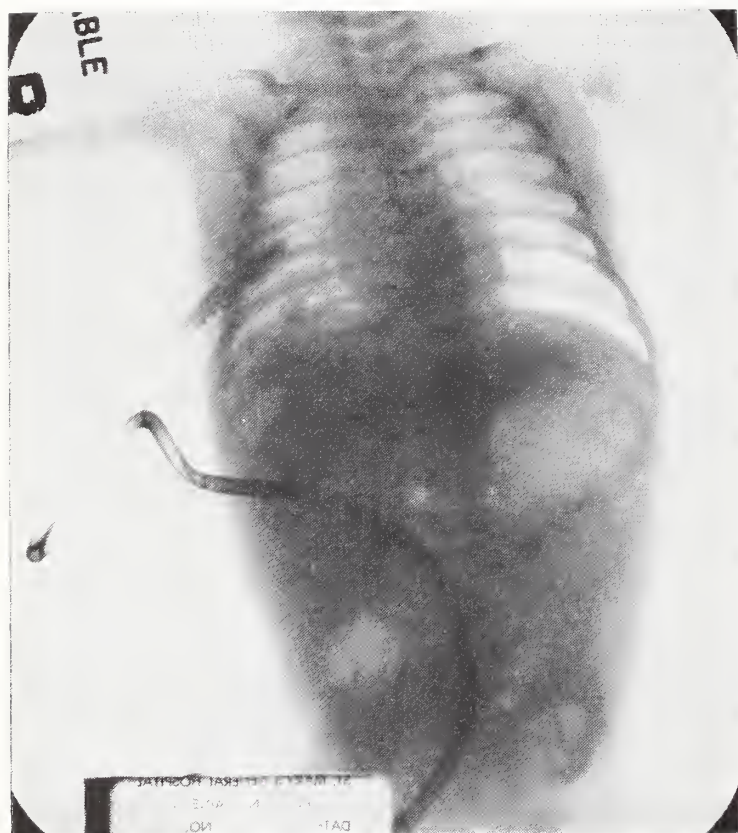


FIG. II (No. 11) — Follow-up film following thoracostomy with tube in site. Re-expansion of the lung has been accomplished.

with Chloramphenicol IM and did well until 10-15-59 when she suddenly became cyanotic and in severe respiratory distress. X-ray showed a tension pneumothorax on the right and aspiration of air was done immediately with relief. Because of persistence of the pneumothorax intubation with a subaqueous deflation system was carried out on 10-17-59 and the baby subsequently did well.

(No. 1) A nine month old male infant was admitted to the Central Maine General Hospital on February 26, 1955 with a history of an upper respiratory infection of one week duration with elevated temperature. He was

treated at home, improved and became worse two days prior to admission. Birth and developmental history was not remarkable. Initial temperature was 103.8°, PR 120.

Admission examination revealed a well developed and nourished child with hyperpnea, flaring of the alar nares, and expiratory grunt. A thin mucoid nasal discharge was found, the tonsils were hypertrophied but no membrane or exudate was present. Diffuse rhonchi were heard throughout on auscultation of the chest. The impression of the examining physician was coryza and bronchiolitis. The remainder of the examination was not pertinent. The patient was treated with Aminophylline® 0.25 CC, syrup of Hydriotic acid, Penicillin, and Sulfadiazine initially; Streptomycin was added and later Chlorotetracycline used.

Laboratory Examination and Course: HGB 83 gms., RBC 2,820,000, WBC 33,900, 37 stabs, 49 mature polymorphonuclear cells, 12 lymphocytes, 1 basophil. Urinalysis; specific gravity 1027, 5 mgs.% albumin, 2+ acetone, WBC 0-1/hpf. CSF examination; sugar present in 5 tubes, total protein 29 mgs.%. Cultures from the chest fluid and pharynx showed non-hemolytic staphylococcus aureus. X-ray showed an area of consolidation involving the right middle lobe. The patient responded poorly, developed tachycardia, and was placed in an incubator with oxygen. On the evening of the second day the pulse rate was 200 and the liver edge palpable and degitilization was carried out. On the morning of the third day the patient suddenly became cyanotic, limp and inactive, respirations were irregular and gasping and paradoxical retractions of the anterior chest wall was observed. Breath sounds were diminished to absent over the entire left chest. X-ray showed a shift of the mediastinum to the right with collapse of the entire left lung and a tension pyopneumothorax on the right.

Thoracentesis was performed on the left and the needle left in site attached to a subaqueous deflation sys-



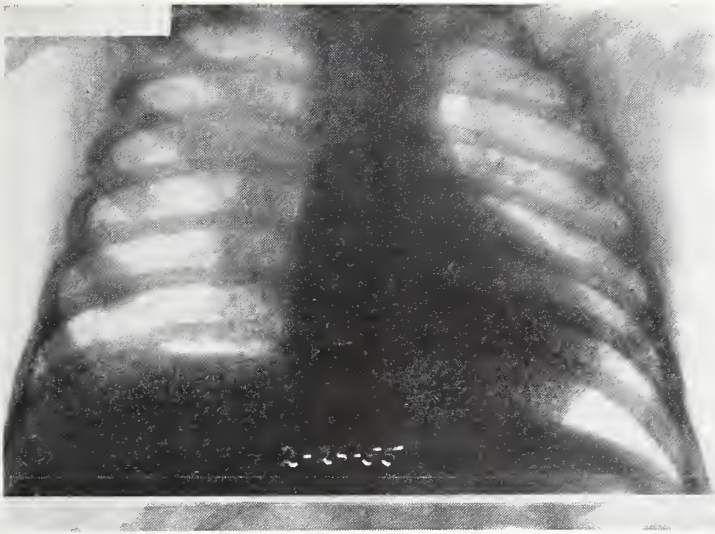


FIG. I (NO. 1) — Admission x-ray showing an area of consolidation involving the right middle lobe.

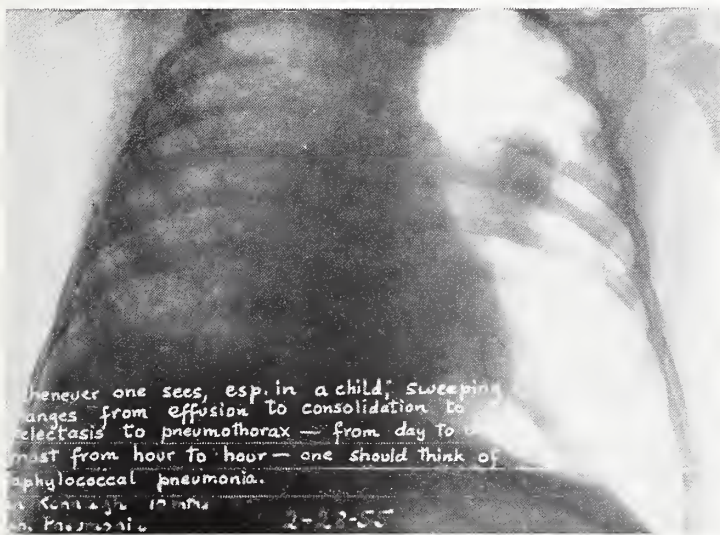


FIG. II (NO. 1) — Follow-up film on the second day revealing shift of the mediastinum to the right and collapse of the entire left lung.

tem. The patient responded favorably and this procedure succeeded in re-expanding the lung 75% with reconstitution of the mediastinal structures. The drain was removed from the chest, transfusion with 100 CC of packed red cells was carried out but in spite of this the patient again relapsed on the evening of the third hospital day and a repeat thoracentesis was unsuccessful. The patient's condition continued to decline and he expired on the morning of the fourth hospital day.

These two cases illustrate the typical onset and the often dramatic sequence of events which occur once complications ensue. Review of the pathogenesis reveals that organisms present in the upper respiratory tract descend to the level of the small bronchi, perforate the mucosa and form small abscesses which disrupt the elasticity of the intact lung and plug the bronchioles interfering with expiration forming a check valve obstruction. Perforation on the bronchioles wall may ensue allowing air to enter forming cysts, and, if the

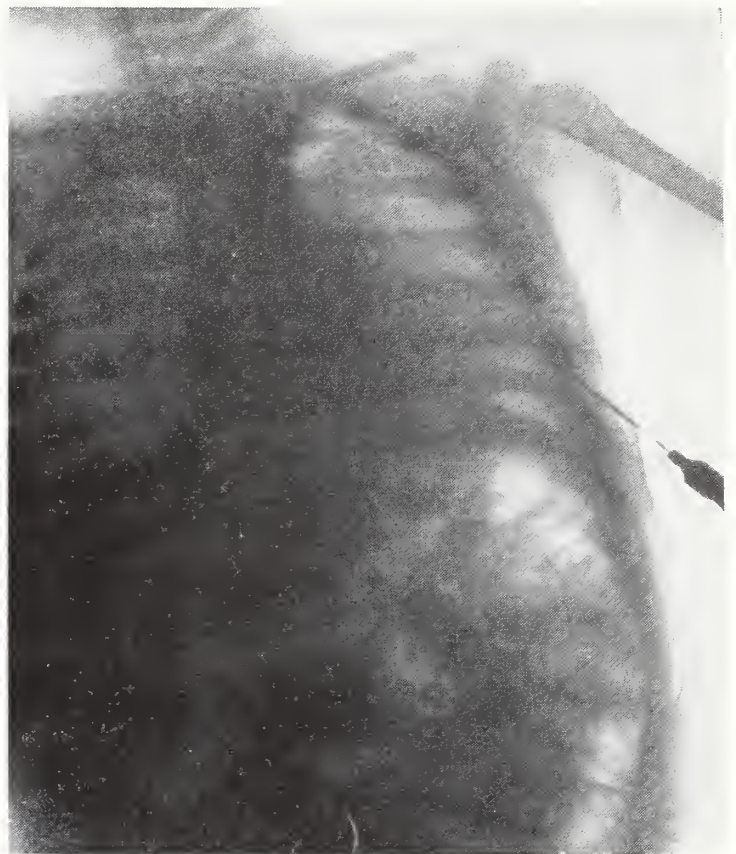


FIG. III (NO. 1) — Partial re-expansion of lung on the left following thoracentesis, needle in site.

pleural space is entered a tension pneumothorax may develop.

#### TREATMENT

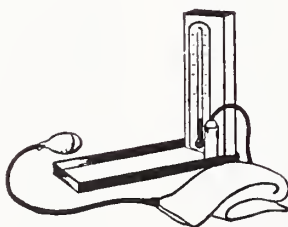
Treatment of staphylococcal pneumonia is essentially adequate dosages of an appropriate antibiotic or combination of antibiotics given over an extended period of time. Chloromycetin, Erythromycin and Albamycin are the more popular antibiotics which are effective in staphylococcal infections. Staphocillin shows great promise. Others which should be mentioned are Vancomycin, Kanamycin and Ristocetin. The exact antibiotic or combination of antibiotics will of course be dictated by sensitivity studies and preferences of individual physicians. Our own experience has been with the combination of Erythromycin and Chlormycetin or Albamycin alone. However we would not hesitate to use any of the other antibiotics if one of the above regimens appeared doomed to failure. Ancillary supportive measures such as adequate fluids, vitamins, blood transfusions when indicated and oxygen therapy are given. Close observation is essential, for complications are frequent and serious. These complications should be recognized and treated early. Empyema and pneumothorax are the most common sequelae. Adequate drainage and re-expansion of the lung are essential. Although needle aspiration of pus or air appears to have a certain appeal, it often ends in failure. A closed thoracotomy using an intercostal catheter connected to a subaqueous deflation system is much more efficient.

Suction is applied to the system if a persistent air leak in the lung is present. The tube is left in place until one is certain that the lung has become fully expanded and the empyema space is obliterated. At this time there will be no further drainage for at least 48 hours and the lung will remain fully expanded without suction. If the purulent material is thick and drains with difficulty, Varidase® (1 ampule mixed in 20 CC of saline) may be instilled into the chest through the intercostal tube and the tube clamped for 8 to 10 hours. The tube is then unclamped and the pleural space allowed to drain. This procedure may have to be repeated several times on successive days in order to get complete drainage. Should a bronchopleural fistula persist or the lung become captivated by a fibrous peel after this simple procedure has been tried, then it becomes necessary to carry out a major thoracotomy to close the bronchopleural fistula or to decorticate the lung.

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# Treatment Of Myeloid Metaplasia

## With Testosterone — Case Report

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**A**GNOGENIC myeloid metaplasia, now classified as one of the myeloproliferative disorders, usually presents as hepatomegaly and splenomegaly, associated with myelofibrosis or myelosclerosis. When the spleen and liver take over bone marrow function in failure of the latter, examination of the peripheral blood usually shows variation in size and shape of the erythrocytes, normoblasts, moderate to severe anemia, young granulocytic cells and thrombocytopenia. Frequently, the disease is confused with leukemia. It may be preceded by polycythemia and in some instances it may terminate as leukemia.

Treatment of this disorder in past years has been unsatisfactory. Transfusions repeated with frequency directed toward maintaining the patient's hemoglobin in the range of 10 grams or more, has been of most help. Other means of therapy, such as x-ray of P<sub>32</sub> treatment to the spleen, use of the corticosteroids and even splenectomy, have occasionally been of help. An excellent recent review of the treatment of myeloid metaplasia by Gardner and Pringle<sup>1</sup> summarizes these methods of therapy and emphasizes the value of androgens, particularly testosterone. Their paper documents the clinical course and improvements in nine patients treated in this way, over a period of five years. Not only did the need for transfusions diminish and disappear — three patients even progressed to polycythemia and required phlebotomies. Four patients were able to forego transfusions entirely. Most of them evidenced progressive hepatosplenomegaly under treatment. Hyperuricemia was intensified in eight of the nine patients.

The following case report documents the findings and course of a patient with myeloid metaplasia, who has been followed for nearly five years and has had a very satisfactory response to testosterone therapy.

### CASE REPORT

This 49 year old storekeeper was first admitted to the Central Maine General Hospital on November 12, 1956, complaining of easy fatigability and bleeding tendency of nearly a year's duration, of progressive nature most marked during the past three months. He had always been in good health and had worked long hours in his general store. During the past year he had noted an easy bruising tendency, particularly of his legs, which had recently become more frequent and marked.

He had also noted easy bleeding of his gums, frequently spontaneous and without trauma, for at least two months. There was no history of other sites of bleeding and no known excessive blood loss. There was no history of chills, fever or weight loss and no known exposure to possibly toxic materials. His only medications were multiple vitamins and iron tablets, dispensed by his physician one week earlier. He did not smoke or drink alcoholic beverages. The family history was unremarkable, the father, 80, and the mother, 76, were still living and well, as were four brothers and one sister.

On physical examination, the temperature was 98.4°, the pulse 76, the respirations 18 and the blood pressure 124/80. He was well-developed and nourished and evidenced generalized pallor. There was no icterus. Nails were normal. Scattered petechiae were present over the trunk and upper extremities but were much more marked over the lower extremities bilaterally. Several aging ecchymoses were present over the thighs and lower legs. Fundic examination showed no hemorrhages. A few petechiae could be seen on the buccal mucosa and some fresh blood was present on the gums about several teeth, the gums bleeding easily with slight pressure. A few discrete, non-tender nodes were present in both axillae and groins. The lungs were clear throughout and the heart was of normal size, position and rhythm. A large non-tender mass was easily palpable in the left upper quadrant and left flank area of the slightly protuberant abdomen and extended nearly to the midline and downward to the iliac crest. The liver edge extended 3 cm. below the costal margin on the right on inspiration. The remainder of the examination was not remarkable.

*Laboratory:* Hemoglobin, 8.5 Gm. (54%); red cell count, 2.55 million; reticulocyte count, 1.4%; white cell count, 1400; differential count: 10 mature neutrophils, 3 stab forms, 87 lymphocytes; 1-2 nucleated red cells per 100 wbc were present; there was moderate variation in size and shape of the red cells. The platelet count was 21,000. The urine was neutral in reaction, sp. gravity 1.019, gave no reaction for sugar, protein or acetone, and the sediment contained 0-2 rbc and 0-1 wbc. The BUN was 8 mg.%, the VDRL negative, the icteric index 10, and the Coomb's test negative. Bone marrow aspiration smears showed only a general hypocellularity.

With these findings, a provisional diagnosis of idiopathic aplastic anemia was made, though it was felt that such other possibilities as myeloid metaplasia and aleukemic leukemia should be further considered, and he was given six whole blood transfusions during the course of his ten-day hospital stay. His hemoglobin rose to 11.2 Gm. (72%) and his general strength was much improved.

With a definitive diagnosis still to be made, he was sent to the Boston City Hospital on December 11, 1956. At this time, the history and physical findings were similar to those listed above. The pertinent laboratory findings were as follows:

Red cell count, 3.95 million; Hemoglobin, 10.7 Gm.; Hematocrit, 36%; MCV, 91; MCHC, 30; Reticulocytes, 0.6; Icterus index, 10; platelets, 21,000; prothrombin concentration, 74%; sedimentation rate (Wintrobe-Landsberg) Corr., 19; white cell count, 1,300; adult neutrophils, 6; band neutrophils, 11; metamyelocytes, 1; small lymphocytes, 57, large lymphocytes, 10; atypical lymphocytes, 3; adult monocytes, 5; histiocytes, 7. Examination of the smear showed decreased platelets and moderate variation in shape of the red cells with pencil forms and fragmented forms. P.V.P. test: negative. Presumptive osmotic fragility: negative. Urinalysis, negative except for numerous red cells in the sediment. Stool: guaiac negative. BSP: 5.3% retention. Serum iron: 149 ug/100 ml. Total iron binding capacity: 267 ug/100 ml. Uric acid: 5.5 mg.%. Serum bilirubin: 1.1%; direct: 0.18 mg., indirect, 0.92 mg. Blood Hinton: negative. Bone marrow aspirations: Mature granulocytes, neutrophilic 1; young granulocytes, neutrophilic, 23; metamyelocytes, neutrophilic, 12; myelocytes B & C, neutrophilic, 6; myeloblasts, 1; lymphocytes, 32; normoblasts, 13; late erythroblasts, 10; early erythroblasts, 1; proerythroblasts, 1; total myeloid, 43, total erythroid, 25, ratio M/E: 1.7. A surgical bone marrow biopsy done 12-12-56 with specimens for histology and TB culture: Dx: severe myelofibrosis with marked pancytopenia. Final diagnosis: myelofibrosis with myeloid metaplasia. A systematic transfusion schedule was advised as the only therapy likely to be useful.

Packed red cells were given at intervals of ten days to two weeks, fluctuating according to need in an attempt to maintain his hemoglobin at about 10 Gm. or more. He had been given nine units of blood in 1956, and a total of 65 units during 1957 and 1958. He was still requiring about the same amount and frequency of these up to June, 1959, when testosterone administration was started. During all of this time, he had continued to notice weakness and easy fatigability and had almost daily occasions when bleeding from the gums occurred. On one occasion, after firing a shotgun, he developed a massive hematoma of the entire shoulder girdle. The spleen had gradually increased in size, and he had had two episodes of evident splenic infarction, but recovered from these without sequelae. Within two months from the time of starting the testosterone

propionate, 100 mg. intramuscularly twice weekly, he began to notice increasing strength and slightly lessening tendency to bleeding of the gums. By November, 1959, he was requiring transfusions only about every three weeks, and was steadily improving. At this time, he developed an evident bronchopneumonia of the right lower lobe. Subsequently, and supposedly as a result of coughing paroxysms, he developed a rounded mass in the right mid-lung field of some 15 cm. diameter. This was associated with chills, fever, sweats and a dropping hemoglobin, requiring more transfusions again. Pneumococci were cultured from the sputum, whereas nothing was grown from the bloody fluid aspirated from the cystic mass, or from blood cultures. With Panmycin, 250 mg. orally every four hours, there was at first little response, but by the second week, he began to raise copious amounts of putrid and old, changed bloody material, and gradually improved. It was presumed that he had sustained a hemorrhage into his lung and that this had become cystic and infected. He recovered after a month, was afebrile and had gained weight. Two months later, after he was much improved, he was readmitted to the hospital for open drainage of the cystic mass, still present and still causing cough and sputum. This was accomplished uneventfully and with no excessive bleeding. Since March, 1960, his chest x-rays have been normal. Also, from that time, he required less frequent transfusions and has received none since May 16, 1960. During the past eight months, his hemoglobin has ranged between 13.9 Gm. (89%) and 14.7 Gm. (94%), his platelet counts, 30,000 to 40,000, and there has been only infrequent bleeding of the gums. Testosterone has been continued steadily in the same dosage as when initiated. Some tendency to dependent edema of the legs has been manifest and this has been easily controlled by use of oral diuril when needed. The serum uric acid has not been elevated.

In summary, this patient with myeloid metaplasia who had required a pint of blood in transfusion at intervals of one to two weeks for over three years, exhibited a gradually diminishing need for this within two months after testosterone therapy was started. He was subsequently able to withstand the subsequent episodes of bronchopneumonia, massive hemorrhage into the lung and eventual open drainage of the latter cystic area without mishap, made a full recovery and has since required no transfusions for over eight months. The accompanying graph depicts his course to date, showing recovery after a total of 128 transfusions over a period of three and one-half years. (Figure I).

#### DISCUSSION

Attention has been drawn to the use of androgens as erythropoietic stimulants and the single case report herein reported documents the value of testosterone propionate in treatment of myeloid metaplasia. This patient, who had required a total of 128 transfusions over a period of four years now has required none for



Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1956 Ave. Hgb. No. of transfusions										8.5	8.5 XXX XXX	10.7 XXX
1957 H T	10.2 XXX	9.6 XXX	9.8 XXX	10.0 XXX	9.8 XXX	10.2 XXXX	9.6 XXX	9.6 XXX	9.8 XXX	10.0 XXX	10.2 XXX	9.9 XXX
1958 H T	10.4 XXX	10.2 XXX	10.2 XXX	9.8 XX	10.8 XX	11.9 XXX	12.5 XX	11.4 XX	11.2 XX	10.8 XX	10.6 XX	10.0 XX
1959 H T	10.4 XX	10.2 XX	10.4 XX	10.6 XX	10.6 XX	11.4 XX	10.7 X	10.4 X	10.6 X	11.2 XX	8.0 XXXX	8.5 XXXX XXXX XX
1960 H T	8.4 XXXXX XXXX	8.5 XXX	9.8 XXXX	11.7 XX	13.1	13.9	14.0	14.2	14.2	14.0	14.7	14.8
1961 H T	14.6											

FIGURE I. Course of patient with myeloid metaplasia before and after treatment with testosterone, started in June, 1959. Average of three transfusions a month required for nearly three years; none after nine months of treatment with testosterone. Greater transfusion requirements in Nov., Dec., 1959, reflect the bronchopneumonia and hemorrhage into lung; those of Jan., 1960, that of thoracotomy and drainage of lung cyst. H = Hgb. average; T = transfusions; X = individual transfusion.

the past eight months. His status has been changed from that of an invalid to a nearly normal existence. His bleeding tendency due to the associated thrombocytopenia has markedly diminished. This transition from chronic inexorable poor health to nearly normal has been a pleasure to both him and the writer.

Gardner and Pringle<sup>1</sup> have used other androgens than testosterone in treatment of this disease but evidently prefer to use testosterone enanthate or propionate and they indicate that with suitable observation of the response, actual dosage of drug required for optimal effect may be titrated for determination of interval dose in each instance. Their report emphasizes the intensification of hyperuricemia from use of androgens in this disease and the occurrence of gouty arthritis as a

complication for which uricosuric drugs should be given prophylactically.

#### SUMMARY

An instance of the salutary effect of testosterone propionate in the treatment of myeloid metaplasia is reported. A lessening requirement of transfusion therapy was noted within three months after testosterone treatment was begun. No transfusions have been required during the past nine months.

#### REFERENCES

- Gardner, F. H. and Pringle, J. C., Jr.: Androgens and erythropoiesis. II. Treatment of myeloid metaplasia. *New Eng. J. Med.*, 264, 103, 1961.

237 Turner Street, Auburn, Maine

# Amniotic Fluid Embolism

## Case Report

DONALD H. HORSMAN, M.D.

THIS condition has been previously known as obstetrical shock, profound toxemia, post-partum hemorrhage, acute pulmonary edema of pregnancy, until the classical description by Steiner and Lushbaugh in 1941, when they demonstrated amniotic fluid (exfoliated epidermis, meconium vernix caseosa, and lanugo hair) in the smaller arteries, arterioles and capillaries of the lung following a clinical picture of sudden shock and cyanosis during tumultuous labor.

Case Report — This 29 year old Gravida IV, Para II, was admitted to the obstetrical floor in active labor. Her past history was three early abortions at eight, six, and two years before admission. These were treated with D & C's. There were two normal pregnancies and deliveries, seven and five years. Her present antepartum course was complicated by four admissions for false labor. She became very apprehensive about her pregnancy. Her estimated date of confinement was not clearly established but it was estimated that she was about three weeks overdue.

On admission the patient had been in mild labor about three hours. Her temperature, pulse, respiration and blood pressure all were normal. Her contractions were moderate, every two to three minutes. The cervix was dilated approximately 4 cm. and at O station with a cephalic presentation. Demerol, 100 mgs., was given intermuscularly to relieve pain. Two hours later her contractions were strong and the cervix was now 6 cm. dilated and at a +2 station. Suddenly she gasped, became agitated, and in less than a minute developed a cape-like cyanosis. She gasped for breath and produced a white froth in her mouth. Oxygen was started immediately. Her blood pressure was unobtainable. An I.V. of 5% glucose and water with Levophed was started and the patient was moved directly to the delivery room. The cyanosis was now deeper and extended to all extremities. An internal version and extraction by forceps of a still-born infant weighing 7 lbs. was done with difficulty. The mother's blood pressure, pulse, and heartbeat was unobtainable after delivery.

Pathology Report — Since most of the gross examination at autopsy was normal, this discussion is confined to the microscopic findings, and these are principally those of recent embolic reactions. The embolic material as seen in the vascular system, both arterial and venous, consisted of varying degrees of mucoid material, granular debris, epithelial desquamata and lanugo hair. This picture was seen most clearly in the lungs and spleen. Even the coronaries and venous

sinusoids were involved. The brain, in particular the brain stem, showed enough of this embolic pathology that this alone would have been incompatible with life.

The only gross pathology was a tear in the cervix which extended into the wall of the uterus. This is probably results of the hasty, difficult delivery.

Predisposing Factors — From several series, it appears that a majority of the women who had died from amniotic fluid embolus were (1) multiparous, (2) in the older age group of reproductive life, (3) past the estimated date of confinement by several weeks, and, most significantly, (4) the patients had tumultuous labor, having exceedingly strong or tetanic contractions. Barneau and Freeman, in their series of 15 cases, made a pointed observation that seven had received pituitary extract during labor and, of these seven, four had received pituitary extract for induction of labor, and in only one case had such induction been indicated.

Mechanism and Mode of Death — The exact mechanism of amniotic fluid entering the maternal circulation is not known. It probably is a pure mechanical process of amniotic fluid being pressed into small tears of the placental bed and in the venous sinusoids.

It has been observed by Tuller in a series of three deaths from amniotic fluid embolism that there was a defect in the clotting of the antemortem blood with accompanying diagnosis of afibrinogenemia. It has been postulated that this may be at least one of the modes of entrance of the amniotic fluid into the maternal blood stream.

Treatment — The disease is almost always lethal but an effort to relieve the cyanosis by oxygenating the blood and overcoming shock should be rapidly started, such as, oxygen by mask, morphine sulfate for restlessness, atropine for its vagal effect, and measures to relieve pulmonary edema by dry or wet phlebotomy.

### SUMMARY

A brief summary of a relatively rare condition, amniotic fluid embolism, with a case report and pathological confirmation has been presented. Perhaps with reflection of the reader, it is not quite so rare.

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50 Goff Street, Auburn, Maine



# The Maine Medical Education Foundation

PAUL H. PFEIFFER, M.D.\*

THE Maine Medical Education Foundation which was established last year by the House of Delegates of the Maine Medical Association has passed its first legal hurdle. At the last meeting of the Council of the Maine Medical Association it was voted to accept the necessary amendment to the By-laws required to administer the Foundation.

The doctors of the State of Maine may indeed be proud of their response to this new institution. Already, in less than a year, the MD's have raised over \$14,300. Another \$16,000 has been donated by a New York State private foundation and the Maine Medical Association and its Journal have volunteered to put any income from investments they may have into this effort — representing a sum of approximately \$1,200 a year. While this is a good beginning, obviously much more must be raised if attractive loans (that is, up to \$1000 per year) are to be made available to a sizable number of students.

At this point a brief explanation of the purpose of this foundation may be in order. There is at the present time a crisis in medical education. This is particularly noticeable in Maine which has the lowest proportion of residents in medical school of all the states in the Union. There are approximately 30% fewer college graduates applying to medical schools now than there were as recently as 1953. Much of this decline has been attributed to the long courses of study and the high costs. As Mr. Dooley pointed out recently in the Maine Medical Journal, medical students at the University of Vermont from Massachusetts are paying the in-state tuition rate which is \$550 a year. Students from Maine are paying \$1500. The State of Massachusetts makes up the difference for their residents. As an example of how important this economic factor is last year there was an increase of 70% in the number of first year students at Vermont from Massachusetts while the number from Maine dropped by 40%!

The present decline in the quantity (and the quality is also declining) of MD's being produced cannot be allowed to continue. There are two significant advantages in having a Maine Medical Education Foundation. First, the administrative expense of this foundation is

nil (by contrast with state and federal institutions which usually have a significant overhead) as the Maine Medical Association has proposed to carry on all administrative duties; and, secondly, there are obvious advantages in having an institution which is under local control making it possible for the physicians of Maine to have a voice in choosing the type of student they send on to medical school and hopefully get back as a practicing physician later on.

As presently contemplated the selection of candidates will be at the discretion of the Committee on Recruitment, Aid and Placement of the MMA and it is hoped that eventually as applications increase this committee may be broadened so that other areas of the State will be represented on this committee.

The grants are to be in the form of long-term loans. Repayment may not start until the recipient has been in practice for two years. At this time an interest rate of 1% will be applied to the loan. The rate of interest will then increase annually by 1% until a maximum of 6% has been reached.

Obviously the economic factors are not the only ones concerned in this crisis of medical education; but, hopefully, by making these loans available to worthy students, the parents and guidance counselors will not be as likely to discourage their striving for a medical education. The other aspect of this situation is to encourage scientifically-oriented students at the high school level to go on to college where presumably they will be inspired to enter a scientific career and a certain percentage will be in medicine or an allied science. It is hoped that all MD's in the State will encourage good prospective students, and will try to find time to speak to groups of students in high or junior high school about a medical career. There is an excellent film called "I am a Doctor" which can be obtained from the office of the Maine Medical Association and is quite effective for this age group.

After all, in spite of the harassments by the few unpleasant patients, the red-tape of forms and the spectre of state medicine ours is still a noble profession containing much personal satisfaction and worthy of being recommended to a younger generation.

14 Gilman Street, Waterville, Maine

\*Chairman, M.M.A. Committee on Recruitment, Aid and Placement.

# Survey Of Nursing Needs In Aroostook County, Maine

## A Summary Report — 1960

GEORGE T. NILSON\*

**D**URING the spring of 1960, various groups in Aroostook County expressed growing concern over nursing shortages. It was pointed out that closure of the only basic hospital diploma nurses' training program at the Madigan General Hospital had resulted in a disturbing decline in the number of young graduate nurses seeking positions in the hospitals of Aroostook County. Although this situation is not peculiar to the Aroostook area, it was felt by several representatives of the hospitals, nursing and medical organizations, that the situation was especially acute in that northern area because of the lack of even a single basic diploma program. This growing stringency has been a number of years in the making.

The Bingham Associates Fund was asked to make a survey of nursing needs in the County under the sponsorship of the Aroostook County Medical Society, the Aroostook TB and Health Association and the Northern District of the Maine State Nurses Association. These three organizations set up a joint committee with equal representation from each. Miss Phyllis E. Caswell, R.N., nurse consultant, Jean A. Curran, M.D., senior consultant and George T. Nilson, M.P.H., field director, all of the Bingham Associates Fund staff, were assigned to conduct the survey in cooperation with key figures representing the fields of medicine, nursing, hospitals, public health and education in Aroostook County.

The major findings and recommendations of the survey are herewith presented:

1. The great majority of hospital directors, nursing directors, and physicians in Aroostook County are of the opinion that the present supply of registered nurses now available in Aroostook is inadequate to meet the existing and future nursing care needs of all areas including hospitals, doctors' offices, schools and in the public health program.

2. The School of Practical Nursing in Presque Isle is making an excellent contribution in providing practical nurses for the area. There is a continued and, in fact, a growing demand among the Aroostook County hospitals for graduates of this program. A concerted effort should be made to expand and support the School of Practical Nursing at Presque Isle.

3. Factors of cost, qualified faculty shortages, and lack of certain clinical facilities indicate that the establishment of a diploma school of nursing in Aroostook County at this time or in the immediate future would

not be feasible. At the present time, clinical teaching facilities are not sufficient in any *one* hospital in the County and could be utilized in combinations of hospitals only at the sacrifice of the existing licensed practical nurse training program. An equally important deterrent is the extreme difficulty in acquiring qualified faculty to staff a school of nursing.

4. There are a sufficient number of class openings in the existing schools of nursing within the State of Maine to offer a manifold increase in the present numbers of Aroostook County students enrolling in Maine schools of nursing.

5. The survey revealed, also, a considerable divergency among the high schools of the County in terms of percentages of their graduates entering schools of nursing. It was readily apparent that factors such as the availability of guidance counseling, future nurses clubs and health career days in the schools, were very real determinants of student interest in nursing and eventual enrollment in schools of nursing.

### RECOMMENDATIONS

A major recommendation of the survey group calls for the establishment of a County-wide nurse scholarship program. The objective of this program would be to raise monies for the purpose of extending financial assistance to worthy and qualified students who wish to obtain an education in professional nursing. It was recognized that this kind of a project must enlist broad participation from all segments of Aroostook County life in order to be successful.

A corollary recommendation to that of scholarships urges the formation of a total dynamic health career program for the youth of the County. The physicians and nurses of Aroostook were urged to give leadership and effort to this vital activity.

The survey group also strongly recommended a careful review of existing personnel policies for employed nurses including salaries, fringe benefits and in-service educational opportunities. Justifiable concern with the future supply of nurses should not completely overshadow the continued need to appraise the working conditions and rewards for the present force of nursing personnel serving the medical and public health needs of Aroostook County.

A final recommendation was that further long-range studies regarding the establishment of a professional nurse education program for Aroostook County be carried out under the auspices of the same joint committee.

\*Field Director, Bingham Associates Fund, Augusta, Maine.



# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### Health Insurance Bills Multiplying In Congress

On Capitol Hill the Administration has introduced a bill on medical eldercare. The liberal Republicans have a bill which is held up as a satisfactory compromise. The updated version of the old Wagner-Murray-Dingell bill which bestows national health insurance on all Americans regardless of age has also been dusted off.

Senator Harry F. Byrd (D., Va.) will introduce a resolution designed to curb Federal spending. Rep. John D. Dingell will file a bill liberalizing definition of "disability" for social security benefit purposes. Both bear a relationship to current reshaping of the Federal role in medical care, but it is the health insurance bills that will be getting most of the attention in next six months.

#### "This Is Not A Substitute"

Introducing the Administration's measure (S.909), Senator Clinton Anderson (D., NM) observed that he voted last year for Kerr-Mills (which AMA supports) but it is not a substitute for this Administration plan, or vice versa. Nor will S.909 replace or cut into Blue Cross, Blue Shield or private plans, he said. Introducing the House companion (HR 4222), Rep. Cecil King (D., Calif.) called it "a practical approach."

#### Liberal Republican Bill

Nine Republicans have joined so far with Senator Jacob Javits (R., NY) in sponsoring S.937, which would pool Federal, state and policyholders' funds to

provide health insurance for persons 65 and over. Unlike the Anderson-King bill, it includes physicians' services and places emphasis on preventive care. An almost identical bill was supported in 1960.

Rep. Dingell (D., Mich.) filed 1961 version of the old "socialized medicine" bill which Senators Wagner and Murray and his late father sponsored in the late 1940's. By omitting financial provisions, Rep. Dingell had the bill (HR 4413) referred to House Commerce Committee, of which he is a member. (WRMS Feb. 20, 1961)

### Life Expectancy Near 120 Predicted By Year 2000

Life expectancy may approach 120 years in America by the end of this century, the *Journal of the American Medical Association* said recently.

A steady upgrading of longevity in the West may reach the reputed longevity of certain peoples in the East, an editorial in the Feb. 25 Journal said. More than 20 Civil War veterans passed the century mark with the oldest living to be 117, the Journal said.

There is evidence that men in Hunza Land, a remote and mountainous region of northern Pakistan, live to be 120 or even 140, the editorial said. Although not documented, it said, such ages are believed to be within the limits of possibility.

"If scientific advances continue to be productive, and there is little doubt but that this will be factual — with eradication of infection, prevention of cancer, and in-

*Continued on Page 98*



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sustains  
retains*

*extra  
antibiotic  
activity*

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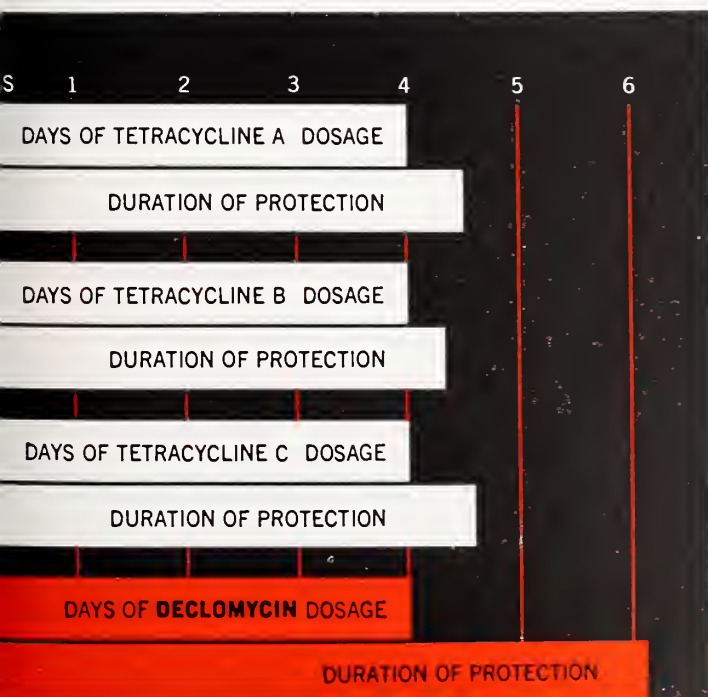


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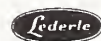
**CAPSULES**, 150 mg., bottles of 16 and 100. **Dosage:** Average infections—1 capsule four times daily. Severe infections—Initial dose of 2 capsules, then 1 capsule every six hours.

**PEDIATRIC DROPS**, 60 mg./cc. in 10 cc. bottle with calibrated, plastic dropper. **Dosage:** 1 to 2 drops (3 to 6 mg.) per pound body weight per day—divided into 4 doses.

**SYRUP**, 75 mg./5 cc. teaspoonful (cherry-flavored), bottles of 2 and 16 fl. oz. **Dosage:** 3 to 6 mg. per pound body weight per day—divided into 4 doses.

**PRECAUTIONS**—As with other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs, discontinue medication.

Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under constant observation.



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hibition of progression of the degenerative diseases — life expectancy in America should approach that of the fabled Hunzukuts by the end of this century and equal that of the Himalayan dwellers in the 21st century," the Journal concluded. "The problems posed by such a probability merit careful study."

### **Civilian Protection Discussed In Germ Or Gas War**

As a defense against possible biological or chemical warfare, the Office of Civil and Defense Mobilization (OCDM) is planning a nationwide detection system and a program calling for mass distribution of protective masks.

Plans for protecting the civilian population against such attacks were discussed by Leo A. Hoegh, former OCDM director, in an exclusive interview with *Today's Health* magazine.

"Our nationwide fallout detection and monitoring network is being equipped to detect gas and germ weapons effects," Hoegh said in the March *Today's Health*. "This will take time and money, but the work is proceeding."

Early detection, identification, and warning systems are a major defense against chemical and biological warfare.

OCDM also is preparing for mass production of a civilian protective mask of new design which will provide easy breathing, good vision, and easy conversation, Hoegh said.

In the new mask, he said, the bulky canister used to filter out the harmful agents has been replaced by filter pads located at cheek positions.

Public distribution of the masks will be through selected retail stores at about \$2.50 each, he said. They will be available in six sizes, he said.

"A public information program concerning the use of protective masks will be timed with their retail distribution," he added.

Asked specifically about biological warfare, Hoegh said:

"The Department of Health, Education and Welfare, under OCDM delegation of authority, has initiated the program to protect the civilian population. Its major objective is education of individuals and families in self-protective measures.

"This program also includes the control and prevention of diseases resulting from BW (biological warfare) attacks; the safeguarding of our food, pharmaceutical, and water supplies; special training and education of doctors, nurses, and other professional personnel in the recognition and diagnosis of the diseases involved; rapid detection and identification of the causative agents; care, treatment, and rehabilitation of casualties, and the stockpiling of necessary emergency drugs, pharmaceuticals, equipment, and supplies."

Citizens should have all standard immunizations offer-

ed by their doctor and local health authorities, he said, and the highest priority has been given by OCDM to the research and development of immunizing agents against diseases for which no protective biologics now are available.

Although there has been much talk about biological and chemical warfare, Hoegh pointed out, "this black art hasn't yet reached the level of efficiency of nuclear war."

A recent special study for the Senate Foreign Relations Committee has described chemical and biological weaponry as "exaggerated" as to present military utility and still far from any possible use capable of strategic decisiveness, he said, although this picture may change in the next few years.

The graver dangers of nuclear war merit our more intensive efforts, he said, but we certainly are not neglecting biological and chemical warfare defense.

### **"Medical Care" Reaches New High In Price Index**

Labor Dept. report last week showed that in January all major components in consumer price index declined or stayed unchanged, with exception of "Medical Care." That item rose 0.3 per cent to 158.5 (1947-49=100). Increase was ascribed to "higher rates for hospitalization and surgical insurance and hospital room." (WRMS Mar. 6, 1961)

### **Coverage Of Physicians**

Senator Young's latest speech accompanied his introduction of S.1120, extending social security coverage to MD's. Wherever doctors have been polled, they have voted for inclusion, said Young. "I, for one, feel that the fine medical men of this country deserve from their government better treatment than that which they are receiving from the ruling group of the AMA," he said in floor speech. (WRMS Mar. 6, 1961)

### **Medicine Downrated With Abolition Of Berry Post**

Last Tuesday Carlisle Piehl Runge, newly appointed Assistant SecDefense (Manpower), walked into Pentagon office of Dr. Frank B. Berry, Assistant SecDefense (Health & Medical). "Looks like I'm going to take you over," announced the 40-year-old official drawn into the Kennedy Administration from Univ. of Wisconsin law faculty. Without the knowledge — let alone advice — of Dr. Berry, SecDefense Robert S. McNamara a few minutes earlier had signed the directive by which the H&M "vice presidency" was eliminated and its functions transferred to the VP for manpower and personnel headed by Runge.

Organized medicine was instrumental in establishment of this post and, also in early 50's, the corresponding one in Dept. of HEW. Now the latter is being filled by



a non-MD and Pentagon's H&M portfolio has been wiped out altogether. There will be protests by AMA and ADA, same to be acknowledged and then placed inactive files.

Reportedly Dr. Berry and his deputy, Dr. Edward H. Cushing, will be offered spots in the new setup but official word to that effect remains unpronounced. Runge office will have responsibility in areas of medical care and treatment of military personnel and dependents (Medicare), health and sanitation controls, hospital construction and operation and procurement of medical and dental manpower.

At request of Defense Dept. Selective Service Hq. here is asking local draft boards to conduct physicals no later than March 1 on 1-A physicians born after Dec. 31, 1931. Directive also applies to 2-A's presently serving internships. At this stage, a callup of 300 to 400 physicians for military duty this summer seems probable. (WRMS Feb. 6, 1961)

### **Pentagon Medical Affairs May Be In For Confusion**

The showdown may be only a little more than a week distant. Dr. Edward H. Cushing is due back in Washington March 7 to take over his new post as Deputy Assistant SecDefense for Manpower, in charge (?) of health and medical affairs. Ever since SecDefense eliminated portfolio of Assistant Secretary (Health & Medical) and put that responsibility under Manpower (WRMS No. 711), Dr. Cushing has been in New Delhi representing Defense at World Health Assembly. As a result, the question — who is now Pentagon's No. 1 on military medical affairs, Dr. Cushing or Dr. Frank Berry, former Assistant SecDefense (Health & Medical) and presently senior consultant to Dr. Cushing's superior, Carlisle P. Runge? — has gone unanswered.

Besides being openly critical of this administrative shuffle, AMA and ADA are uncertain whether their dealings should be with Dr. Berry or the man who was his deputy under the old setup, Dr. Cushing. Fact that there is still no official organization chart for the downgraded medical unit does not help clear up matters. There may be awkward moments March 10 when Medicare advisory committee presents its periodic report to Mr. Runge, or Dr. Berry, or Dr. Cushing. (WRMS Feb. 27, 1961)

### **AFL-CIO Unhappy**

The AFL-CIO Executive Council met in Bal Harbour, Florida, attacked the deductible provisions of President Kennedy's plan for health care of the aged. . . . However, the Labor leaders urged "prompt passage" of the Anderson-King bill because it "provides framework for a sound, constructive program." . . . Labor recognizes, as does the medical profession, that the Administration program is a foot in the door towards socialized medicine. (Council On Legislative Activities)

### **Foreign Medical Graduates**

Reduction in the number of foreign medical graduates in this country has little to do with the growing number of unfilled hospital house staff positions, a former medical school dean said recently.

The unfilled positions result because more internships and residencies have been approved than are really needed or can actually be filled — and not because the number of foreign graduates is decreasing, Willard C. Rappleye, M.D., said in *Hospitals*, Journal of the American Hospital Association.

Dr. Rappleye, now president of the Josiah Macy Jr. Foundation, New York, was formerly dean of Columbia University College of Physicians and Surgeons.

A program to require foreign medical graduates to pass an examination given by the Educational Council for Foreign Medical Graduates is now in effect and has produced the charge that its implementation will produce a deficit in the number of physicians available to fill house staff positions in United States hospitals.

Approximately 12,000 foreign graduates now occupy about 33 per cent of the house staff positions in the country, he said.

The Educational Council for Foreign Graduates, supported by several major medical, hospital and health organizations, was set up to promote educational opportunities for foreign graduates and to make sure that they reach a level of attainment comparable to graduates of United States schools.

Qualification tests have been given at intervals both in the United States and abroad. The most recent test in September 1960, was taken by 8,713 graduates, of whom 71 per cent were certified.

The American Medical Association and the American Hospital Association ruled that as of December 31, 1960, hospitals must remove unlicensed or uncertified graduates from patient care situations or face loss of approvals. The physicians who were removed from patient care situations may take the next examination, scheduled for April 4. In the meantime, many hospitals have set up educational courses for these physicians, with the aim of preparing them for the examination.

The real problem of house staff positions lies in the fact that the number of available internships (13,032) and residencies (30,733) far exceeds the number of graduates of American medical schools (7,081 in 1960). And too many of the positions, according to Dr. Rappleye, are now "intended and designed more as service functions for the staff and hospital than for education purposes," their real function.

Internship and residency programs must be turned into real educational programs — both for graduates of American and foreign medical schools. The programs for foreign graduates urgently need "a long-term, imaginative approach," especially in terms of meeting America's promises of aid to underdeveloped countries, he continued.

Most foreign graduates are expected to return home,

where they will organize and improve medical education and service. Thus their educational programs here should be geared to such an aim, Dr. Rappleye said.

The over-all question of staffing American hospitals must also be solved. Temporarily, it may be necessary for hospitals to set up rotating programs whereby the attending physicians remain on call for the entire hospital on weekends and nights.

The most logical solution to the problem, Dr. Rappleye believes, is "probably employment of well qualified recent graduates on a full-time or part-time basis by the hospitals." Such young physicians can remain in the positions for several years while establishing themselves in the community.

By having such staff members, the intern and residency programs can then become truly educational programs, he said.

## LEGISLATIVE ROUNDUP

### Kennedy Program

President Kennedy asked Congress on February 9 for a vast and expensive health program highlighted by a compulsory social security program for financing hospital care, out-patient diagnostic services, and nursing care for the aged. . . . In a special message to Congress which dealt mainly with the aged care program, the President also proposed federal scholarships to increase the supply of physicians and dentists; grants to bolster community nursing and hospital services; aid to medical and dental schools; a program to improve the health of children and youth; and increased medical research. . . . Administration officials said the aged care program, slated to start January 1, 1963, would cost \$1.1 billion the first year and would mean a \$1.5 billion-a-year increase in social security payroll taxes. . . . Informed sources in Washington disclosed that the Administration bill on aged care was ready and probably would be introduced February 13, or shortly thereafter. . . . A specific bill on medical school construction and scholarships, and another on community health services also are reportedly ready.

### Raise Taxes

Under the Kennedy aged care program, social security taxes in 1962 would be increased from the present 6% (3% employee, 3% employer) on a tax base of \$4,800 to 6½% (3¼% employee, 3¼% employer) on a tax base of \$5,000. . . . This ½% increase and enlargement of the tax base by \$200 would mean an increase in annual social security taxes from \$288 (\$144 employee, \$144 employer) to \$325 (\$162.50 employee, \$162.50 employer). . . . On February 2, the President's so-called "road to recovery" program (See Legislative Roundup, February 3) called for a 1% increase in social security taxes (½% employee, ½% employer) in 1963. . . .

This would shoot the total annual social security tax to 7½% (3¾% employee, 3¾% employer). . . . On a tax base of \$5,000, this means a tax of \$375 a year (\$187.50 employee, \$187.50 employer). . . . For a self-employed person in 1963, the social security tax would be \$281.25 (1½ times that of the employer) . . . . Despite these steep increases in the percentage of tax and the enlargement of the tax base, it is extremely doubtful that the Social Security Trust Fund would be sufficient to take care of all the benefit payments. . . . Inevitably, this would bring about further increases in the social security tax. . . . It is difficult to realize that the architects of the 1935 Social Security Act envisioned a *maximum tax* of 6% (3% employee, 3% employer) on a base of \$3,000, or \$180 (\$90 employee, \$90 employer).

### Basic Provision

The major points of the Kennedy aged care proposal are as follows . . . (1) Coverage for those age 65 and over who are entitled to social security benefits or railroad retirement benefits . . . (2) Inpatient hospital services up to 90 days in a single spell of illness, for all costs in excess of \$10 per day for the first 9 days, and full costs for the remaining 81 days . . . (3) 180 days skilled nursing care, limited to convalescence after hospitalization . . . (4) Hospital outpatient diagnostic services for all costs in excess of \$20 . . . (5) 240 daily visits of home health services.

### Medical Schools

In his health message, the President also proposed a 10-year \$750 million medical and dental school construction program, and federal scholarships for medical and dental students. . . . Under the scholarship plan, each institution would be entitled to an amount equal to \$1,500 multiplied by 25% of the freshman class. . . . In subsequent years, these scholarships would be available to each entering class. Thus, after four years, the amount would be four times greater. . . . The President also urged a cost of education grant which would equal an amount of \$1,000 multiplied by 25% of the freshman class. He would extend the research grant programs 3 years, and increase the annual appropriation from \$30 million to \$50 million.

### Community Services

Mr. Kennedy proposed the establishment of a permanent program under which grants would be made to the states to improve community services to patients outside the hospital. . . . In addition, he recommended the establishment of a National Institute of Child Health and Human Development in the National Institutes of Health.

*Continued on Page 110*



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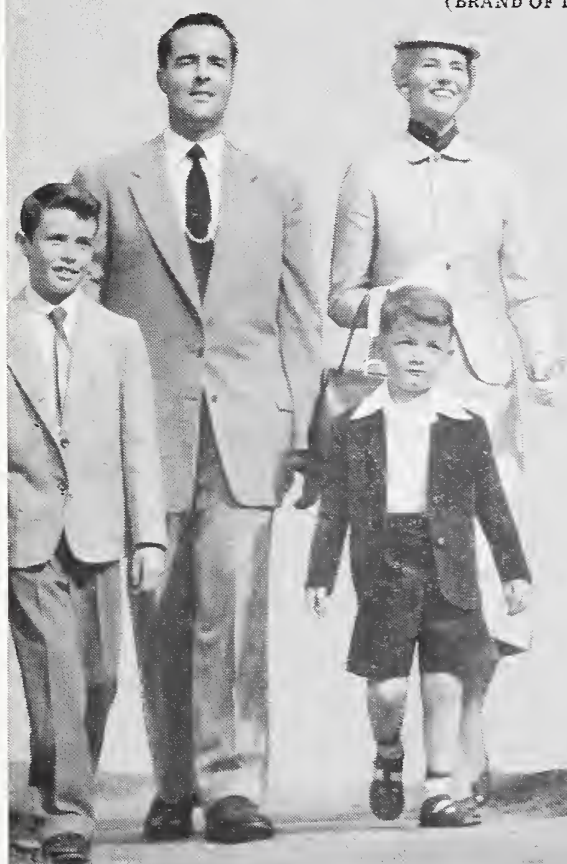
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## Department of Health and Welfare

### The Challenge

S. C. BECKERMAN, M.D.\*

"... I say to the Members of this body that unchecked disease is a more ruthless enemy of this democracy than any other foreign invader, for it not only saps the very fiber and strength of our democracy, but it kills and cripples all in its path including children and helpless old people.

"... this unchecked invader kills 1,700,000 Americans each and every year. If an enemy air attack were to wreak this kind of destruction, we would mobilize our entire strength to repel the invader.

"I submit to this body that it is about time we mobilized a major offensive against this invader."

These remarks were made by Senator Lister Hill on the floor of Congress in June of 1959 in regard to appropriations to the United States Department of Health, Education and Welfare. The invader to which Senator Hill was referring is Disease. The Cancer Control Program of the State of Maine represents the ability of the physicians, the lay citizenry, and other interested groups within the state to cooperatively wage a major offensive against this disease — Cancer.

In the early 1900's, communicable diseases of early childhood were high on the mortality scale, while cancer ranked seventh as a cause of death. Today, cancer is second only to heart and circulatory diseases. Because the population is living longer, (life expectancy at the turn of the century was 49; today it is 67.), people are becoming increasingly liable to cancer and cardiovascular diseases. The drain on communities is measured not only in terms of human lives, but also in terms of disability, lost income, decreased productivity, medical bills, psychological strains, and broken homes. With increasing frequency, these problems do not remain those of the patient or family alone. More often, these problems become those of the community, and as such, they must be viewed and solved by all working together. The Cancer Control Program is an effort attempting to do just that; to bring together the peoples and the communities of the State of Maine, so that all may co-

operatively view and solve the problems of Cancer within the state, and at the same time take part in the eventual solution of the cancer problem in general.

Specifically, a Cancer Control Program should be made up of the following basic components:

1. Public education
2. Professional stimulation and education
3. Case-finding
4. Record keeping
5. Prevention

#### PUBLIC EDUCATION

It is clearly recognized that the private physician is the hub around which the entire Cancer Control Program must rotate. The ultimate eradication of the disease rests upon the individual and private physician. However, he is helpless to properly perform unless the patient with the disease can be brought into contact with the physician. The public must be taught to recognize the common early signs and symptoms of cancer and must be motivated to seek medical advice as soon as these appear. The public must be repeatedly encouraged to obtain periodic health examinations.

#### PROFESSIONAL STIMULATION AND EDUCATION

Constant advances in diagnosis and therapy change the cancer picture so rapidly, that there may frequently be a lag in the dissemination of knowledge to the professional workers. The program should provide a basic fund of cancer information to the involved professions in order to close the gap between research and practice and raise the level of cancer consciousness and index of suspicion. It should encourage a positive approach to the entire problem, so that cases will be found early, treatment will be done with vigor, and follow-up will be dogged and long-termed.

#### CASE-FINDING

This is actually a combination of both public education and professional education. If the patient knows

*Continued on Page 109*

\*Director, Cancer Control



## Necrologies



WILSON H. MCWETHY, M.D.

1907 - 1961

Wilson H. McWethy, M.D., of Augusta, Maine, President of the Maine Medical Association, died on February 10, 1961 at the Veterans Administration Hospital, Togus following a long illness.

He was born on June 21, 1907 in Batavia, New York, the son of Harry H. and Elizabeth Wilson McWethy.

He graduated from Pennsylvania Military College in 1931 and from Temple University Medical School in 1936. He served his internship and residency in the Harrisburg, Pennsylvania, Polyclinic Hospital, and has practiced medicine in Augusta since 1938.

Dr. McWethy was a member of the Kennebec County Medical Association, the Maine Medical Association, the American Medical Association, the Medico-Legal Society, a past president of the Maine Heart Association, a fellow of the American College of Cardiology, a former chief of staff at Augusta General Hospital and a consultant at the Veterans Administration Center Hospital in Togus.

Dr. McWethy was active in civic and community affairs, was a member of the Augusta Board of Education, a former president of the Augusta Rotary Club, chief medical consultant to the Division of Vocational Rehabilitation of the State Department of Education, a Kennebec County medical examiner, chief surgeon of the Maine State Police, on the board of directors of the Augusta YMCA, a member of Fitzgerald-Cummings Post, American Legion; Memorial Post, Veterans of Foreign Wars, and of St. Mark's Episcopal Church.

During World War II he was a Major in the Army Medical Corps from 1942 to 1945. In 1953 he was named chairman of the State Advisory Committee on Procurement and Assignment of Doctors, Dentists and Veterinarians for State Selective Service Headquarters.

In 1959 he toured Europe with Rotary International.

Surviving are his widow, Mrs. Isabel Cooper McWethy; a son, Robert Wilson, and a daughter, Mary Elizabeth, all of Augusta.

## WILLIAM J. FAHEY, M.D.

1886 - 1961

William J. Fahey, M.D. died on January 8, 1961, at his home in Lewiston, Maine.

Dr. Fahey was born on January 20, 1886. After attending the Lewiston schools he was graduated from Bowdoin Medical School in 1910. Following this he interned at the Central Maine General Hospital and at the New York Lying-In Hospital and entered the practice of medicine in Lewiston in 1911.

Dr. Fahey joined the Staff of the Central Maine General Hospital in 1911 and served as Anesthetist until 1916. He was Adjunct Surgeon from 1917 to 1928, Attending Surgeon from 1928 to 1948 when he was appointed Consulting Surgeon, a position he held until his death.

He was surgeon for the Lewiston Fire Department from 1931 until 1957 when he resigned.

Dr. Fahey was a member of the Androscoggin County Medical Association, the Maine Medical Association, the American

Medical Association and a Fellow of the American College of Surgeons.

In 1960 he was presented a medal by the Maine Medical Association in recognition of his fifty years in the practice of medicine.

Although carrying on a busy practice, Dr. Fahey was interested in community affairs. He was a member of the Knights of Columbus and the Lewiston Lodge of Elks.

Dr. Fahey was highly respected by his colleagues for his professional ability and his conscientious application to duty. He possessed a keen sense of humor and a genial and sunny disposition. If a serious decision had to be made and he had weighed the evidence his stand was firm in what he considered to be right in his judgment.

Surviving are his widow, the former Margaret McKenney; three sons, Dr. William E. Fahey, Thomas Fahey and Walter J. Fahey, all of Lewiston; and seven grandsons.

## WARD J. RENWICK, M.D.

1873 - 1961

Ward J. Renwick, M.D., of Auburn, Maine, died of coronary heart disease at the Central Maine General Hospital in Lewiston, Maine on January 12, 1961, approximately eight weeks after he was taken ill. He was still seeing cardiac patients sixty-four years after he first began to practice medicine in Auburn in 1897. Dr. Renwick had received his 60-year pin from the Maine Medical Association at the June, 1957 annual meeting in Rockland, Maine.

Dr. Renwick was born in Hamden, New York, on April 12, 1873. He attended the public schools of Walton, New York, and received a degree from Union College in Schenectady. His medical degree was obtained in 1897 from the Cleveland University of Medicine and Surgery, now a part of Ohio State University.

Dr. Renwick came to Auburn in 1897 following his marriage to the former Ada Benedict of Walton, New York and began practice as a homeopathic physician and general practitioner. He was immediately appointed to the Medical Staff of the Central Maine General Hospital and remained on the active staff until 1939, after which he served on the consulting staff in cardiology until his death.

He was a real pioneer in medicine in Maine and distinguished himself amongst Maine physicians. He treated the great majority of diabetics in this region for many years and was one of the first to use insulin in Maine.

Dr. Renwick became interested in electrocardiography and

heart disease about 1930 and after taking postgraduate courses under the now world-famous Dr. Paul Dudley White at the Massachusetts General Hospital in Boston, Massachusetts, he returned to Lewiston-Auburn and established the Department of Electrocardiography at the Central Maine General Hospital in 1932 and served as cardiologist until his retirement from the active staff.

He was a past president of the Androscoggin County Medical Society. He was a member of the Maine Medical Association and had served on several of its committees during his active lifetime. Dr. Renwick was also a member of the American Medical Association and of the American Heart Association. In addition to carrying on the activities of his busy medical practice, Dr. Renwick was active in community affairs. He was a 32nd Degree Mason and also a member of Kora Temple Shrine.

He was held in high esteem by his associates and was loved and respected by his many patients. Dr. Renwick exhibited all the qualities of a great and fine clinician and was a superb credit to his profession, to his community, to his family, and to the Androscoggin County Medical Society. Dr. Renwick was honored and respected by all of his medical associates for his long and useful life of dedicated service and leadership in the field of medicine.

Surviving are his widow, a daughter, Mrs. Frank W. Linnell and two grandsons.

## Deceased

KENNEBEC

Arch H. Morrell, M.D., 67 Sewall Street, Augusta, February 4, 1961

Norman B. Murphy, M.D., 31 Western Avenue, Augusta, February 24, 1961



# County Society Notes

## ANDROSCOGGIN

February 16, 1961

The February meeting of the Androscoggin County Medical Association which was held at the Central Maine General Hospital in Lewiston, Maine was called to order by the President, Dr. Waldo A. Clapp. Twenty members were present.

The following members were appointed to serve on the Public Relations Committee: Dr. Donald L. Anderson, Chairman; Dr. George B. O'Connell and Dr. Frederick B. Lidstone.

Dr. Ralph A. Goodwin, Sr. read the resolution on the death of Dr. William J. Fahey and Dr. Eustache N. Giguere the resolution on the death of Dr. Ward J. Renwick. It was voted that the resolutions be spread on the records of the society and a copy be sent to the family of Dr. Fahey and Dr. Renwick.

Social Security was discussed by Dr. Henry A. Brann, of Augusta; Mr. John Beale, manager of the Lewiston Social Security Office and Mr. Charles Frost, counselor for the Bureau. Dr. Brann gave a brief, concise, outline of the duties of the Bureau. A movie was shown which illustrated the facts Dr. Brann had outlined. An informative question, discussion and answer period followed.

DONALD L. ANDERSON, M.D.  
*Secretary*

## CUMBERLAND

February 16, 1961

Sixty-two members were present at the February meeting of the Cumberland County Medical Society which was held at Valle's Steak House in Portland, Maine. After a social hour and dinner, the meeting was called to order by the President, Dr. Robinson L. Bidwell.

Dr. Janis Urjanis, of Pineland Hospital, was elected to membership.

Dr. Stephen E. Monaghan, Chairman of the Program Committee, asked for any ideas members might have for future programs.

Dr. Benjamin Zolov announced that he had attended a meeting in Brunswick at which the \$25.00 assessment for scholarships for medical students was discussed. He stated that over \$14,000 has already been collected for this fund and that there are still over 100 members who have not paid the assessment.

Dr. Philip P. Thompson, Jr. reported on a recent meeting of the Council of the Maine Medical Association, at which National and State Legislative matters were discussed.

The Scientific Program consisted of a panel discussion of Professional Ethics moderated by Dr. John F. Gibbons. Participants were: Dr. Eugene P. McManamy, Surgery; Dr. Charles R. Geer, General Practice; Dr. Eben T. Bennet, Obstetrics and Gynecology and Dr. Benjamin Zolov, Internal Medicine. The opinions expressed were both informative and entertaining, as were the questions and answers from the floor.

ALBERT ARANSON, M.D.  
*Secretary*

## KENNEBEC

February 16, 1961

A dinner meeting of the Kennebec County Medical Association was held on February 16 at the Senator Motel in Au-



Dr. Tisdale of Boston and Dr. Philip Dachslager, President of the Kennebec County Association.

gusta. Dr. Jose Castellanos, of Augusta, and Dr. Joseph S. Weltman, of Togus, were elected to membership.

The clinical portion of the meeting was an instructive talk on "Viral Hepatitis" by Dr. William Tisdale of the Gastro-Intestinal Laboratory at the Massachusetts General Hospital, and an instructor in medicine at Harvard Medical School. The subtleties of the clinical course of viral hepatitis was discussed and beautifully illustrated with photo micrographs of liver biopsies.

EARLE M. DAVIS, M.D.  
*Secretary*

## New Members

### ANDROSCOGGIN

John Milazzo, M.D., 42 Elm Street, Auburn

### CUMBERLAND

Janis Urjanis, M.D., Box C, Pownal

### HANCOCK

John D. McIntyre, M.D., 50 Union Street, Ellsworth

### KENNEBEC

Jose Castellanos, M.D., Augusta State Hospital, Augusta  
Joseph S. Weltman, M.D., Veterans Administration Center, Togus

### YORK

Stephen Berger, M.D., 257 Elm Street, Biddeford

## CORRECTION

County Society Notes. — In the February, 1961 issue of the Journal, page 78, under deceased, Penobscot County, Walter L. H. Hall, M.D. should have been Walter Charles Hall, M.D., 85, who died in Orono on February 2, 1961. Among survivors is his son Walter L. H. Hall, M.D. of Old Town.

## Postgraduate Course In Pharmacology to be presented at Central Maine General Hospital, Lewiston

The Central Maine General Hospital in Lewiston, will offer a postgraduate course in "Pharmacology" beginning Wednesday, April 5 and continuing each Wednesday afternoon through May 17.

The lectures will be presented each Wednesday afternoon from 4:00 to 6:00. A nominal fee will be charged. Approval by the AAGP for the course is forthcoming.

April 5 Antidepressants

a) Neuropsychopharmacology

DR. RALPH TESECHI

b) Clinical Aspects

DR. MILTON GREENBLATT

April 19 Cardiovascular Agents

a) Modes of Action

MR. RICHARD MCLEAN

b) Clinical Aspects

DR. DALE FRIEND

April 26 Analgetics and Muscle Relaxants

a) Pharmacology

DR. LEON GREENE

b) Clinical Aspects

DR. ROY KRUMPERMAN

May 3 Tranquilizers

a) Interactions of Drugs and Behavior

DR. LEONARD COOK

b) Discussion of specific psychotherapeutic agents — pharmacology and therapeutics

DR. ALEX KANDEL  
DR. HENRY CORNMAN

May 10 Antiatherosclerotics

a) Biochemistry

DR. WILLIAM HOLMES

b) Clinical Aspects

DR. HENRY CORNMAN

May 17 Diuretics

a) Biochemistry and Pharmacology

DR. VIRGIL WIEBELHAUS

b) Clinical Aspects

DR. ARCHER CROSLY



# Announcements

## Pineland Hospital And Training Center Pownal — Maine Conference Room — Treatment Building

1961

April 6	Abnormal Chromosomes in Mentally Deficient Patients	11:00 A.M.
April 13	Deprivation Syndromes in Children	11:00 A.M.
April 20	Mongolism	11:00 A.M.
April 27	Hematological Disorders as Cause of Intracerebral Hemorrhages	11:00 A.M.
April 20	Clinicopathological Conference	10:00 A.M.

### One To Plan On

An outstanding program on medicine and the law will be presented at the Statler Hilton Hotel in New York, April 28-29, 1961.

The Regional Medicolegal Conference, sponsored by the American Medical Association's Legal and Socio-Economic Division, will feature such speakers as Crawford Morris of Cleveland, an authority on *Res Ipsa Loquitur*; Lou Ashe of San Francisco, immediate past-president of the National Association of Claimants' Compensation Attorneys; and Judge Irving Goldstein of Skokie, Illinois, co-editor of *The Medical Trial Quarterly*.

The New York meeting is the final one in a series of three

medicolegal meetings being sponsored by the AMA this year. Other conferences will be held in San Francisco, March 10-11 and in New York, April 28-29.

The New York conference will have registrants from New York, Michigan, Pennsylvania, Maryland, Washington, D. C., Delaware, New Jersey, Maine, New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island.

All those who intend to attend the meeting are asked to make their own hotel reservations.

Registration fee for the conference will be \$5 to cover the cost of a luncheon on Saturday and a copy of the proceedings. Advance registration cards may be obtained by writing: C. Joseph Stetler, Director, Legal and Socio-Economic Division, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

### Videotaped Proceedings On The Great Issues Of Conscience In Modern Medicine

Fifty educational television stations throughout the country are scheduled to telecast the videotaped proceedings of last September's Dartmouth Convocation on the Great Issues of Conscience in Modern Medicine.

The programs center on three panel-discussion periods of the convocation on "The Issues of Man and His Environment," "The Issues Concerning Man's Biological Future" and "The Issues Involved in Influencing the Mind."

## BLUE CROSS AND OTHER INSURANCES ARE ACCEPTED



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Psychiatrist in charge

PHILIP BLINDER, M.D.  
Associate Psychiatrist in charge

CARL J. HEDIN, M.D.  
Diplomate, American Board of  
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- Alcoholics

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First, let us say you told the druggist to indicate the dosage that our clinical research has shown is useful in these cases — 1 or 2 tablets t.i.d. In all probability, she would experience relief of pain and a general relaxation in less than an hour. If she is doing her housework, she could go on with it, because she wouldn't get sleepy.

Dornwal is one tranquilizer that doesn't make people sleepy. It's a tranquilizer pure and simple. Its effectiveness you will see clearly the next time you encounter a patient given to tension headaches. Try Dornwal and see the results.

**Dosage:** One or two 200 mg. tablets three times a day. Children, age 6 to 16, one or two 100 mg. tablets two times a day. Administration limited to three months' duration.

**Supplied:** 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

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No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

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PDW-11

The three 90-minute shows will be shown on the following stations:

WENH — Durham, during the weeks of April 30-May 6, May 7-13, 14-20;

WGBH — Boston, during the weeks of April 16-22, 23-29, April 30-May 6.

**Department Of Health And Welfare  
Division Of Maternal And Child Health  
Including Services For Crippled Children**

**Orthopedic Clinics**

Portland — Maine Medical Center

9:00 a.m.: Apr. 10, May 8, June 12

Lewiston — Central Maine General Hospital

9:00 a.m.: Apr. 21, May 19, June 16

Rumford — Community Hospital

1:30 p.m.: June 21

Waterville — Thayer Hospital

1:30 p.m.: June 22

Rockland — Knox County Hospital

1:30 p.m.: May 18

Machias — Washington County Normal School

1:30 p.m.: Apr. 12

Presque Isle — Northern Maine Sanatorium

9:00 a.m. and 12:30 p.m.: May 9

Fort Kent — Peoples Benevolent Hospital

10:00 a.m.: May 10

Bangor — Eastern Maine General Hospital

1:00 p.m.: May 25

(Several will be two-session clinics)

Augusta — Augusta General Hospital

1:00 p.m.: Apr. 27

**Cardiac Clinics**

Portland — Maine Medical Center

9:00 a.m.: Every Friday (Holidays Excepted)

Bangor — Eastern Maine General Hospital

9:00 a.m.: Apr. 14, 28, May 12, 26, June 9, 23

**Cleft Palate Evaluation Clinics**

Portland — Maine Medical Center

10:00 a.m.: May 9

**Pediatric Clinics**

Bangor — Eastern Maine General Hospital

1:30 p.m.: Apr. 28, May 26, June 23

Presque Isle — Northern Maine Sanatorium

1:30 p.m.: May 24

Waterville — Thayer Hospital

1:30 p.m.: Apr. 4, May 2, June 6

**Clinics For Mentally Retarded  
Pre-School Children**

Waterville — Thayer Hospital

9:00 a.m.: Apr. 5, 12, May 3, 17, 31, June 7, 21

**Adolescent Clinics**

Portland — Maine Medical Center

1:00 p.m.: Apr. 26, May 24, June 28



## Letter To The Editor

### More Medical Students: A Job for Maine's Practicing Physicians

Dear Editor:

Surveys of medical manpower indicate that physicians are in short supply in relation to the population and that they will be more scarce as the population zooms upward. This is especially true for Maine, which is producing less than its share of medical students.

"Health is a basic national and world need. It is the tasks of schools of public health and of medical schools to maintain and advance it. In this country there is a growing national shortage of physicians. There are also already more than 800 unfilled teaching positions in the nation's medical schools. It is estimated that before the decade is out, just to stay where we are, we shall need 3,000 more doctors annually than are now being graduated each year by our 85 medical schools."

Available research in the field of guidance indicates that people tend to select a life work when they are children. Their decision for or against an occupation is often based on their image of the physician (for instance) as typified in some person who practices it in their town and who typifies the job to them. The decision — largely emotional, partly logical — seems to stay with them and to become fixed unless later experiences disturb the picture. The child identifies himself with this physician-image.

The time has come when the individuals practicing medicine in Maine must take steps to keep students — the lifeblood of their profession — flowing into the premedical and medical schools. At a recent joint meeting of representatives of the Maine Medical Association, Bowdoin, Bates and Colby Colleges and the University of Maine, the Bingham Associates Fund and school guidance officers, a simple approach to recruiting was suggested:

Let each practicing physician learn from his elementary and secondary school principals and guidance counselors the names of their students who apparently possess the scholastic aptitudes necessary for success in college. Let the physicians then

contact these students and acquaint them with the profession of medicine, not by long-winded lectures but mostly by inviting them to "come along" on hospital and home visits (when feasible), on lectures to nurses in training, and college seminars. Ask them to come in groups or singly. Be patient in answering the asked and unasked questions of the young people. Let the teacher-doctor be factual at all costs, even if it entails some research, on his part, with local or state guidance personnel or his professional organizations. But let him not be afraid of idealizing his work if he feels that way about it. After all, there must be a bit of the missionary in the physician or he wouldn't be in his job.

The physician will beware of "old" statistics, if he must use statistics. There was a time when only one in each twenty applicants was admitted at some medical schools; now one in three is a closer estimate, and there are many "B" students admitted. While there are few scholarships for "pre-meds" as such, general scholarships and loans are available to them. Once in medical school financial aid is more available. Interns are often paid a little and residents a little more. Some medical students even find time for part-time work.

It is not easy for the physician to take on the "bother" of young people, to make arrangement for their acceptance as visitors by colleges, hospital and patients, to talk with their parents. But it is a contribution which he alone is qualified to make and it may be a very important way to staff the profession.

Be not afraid of too many of our youth being steered into pre-medical colleges by this means. Pre-medical colleges by and large are good institutions for general education. Neither be afraid of the "doctor-image" projected by the physician. By and large it is an image of an unusually fine and professional person.

JOHN C. CASS, Ed.D.  
Maine Department of Education  
Augusta, Maine

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### DEPARTMENT OF HEALTH AND WELFARE — *Continued from Page 102*

the common, early signs of cancer, he is more likely to consult his physician promptly. If the physician has a high index of suspicion, and recognizes early signs and symptoms, he is likely to investigate earlier and more thoroughly.

#### RECORD KEEPING

In order for this part of the program to be truly useful, case records and reporting must be complete and accurate. If this is properly done, it will indicate what the problem is, where it is, how well it is being handled, and what progress is being made with the disease.

#### PREVENTION

Under this heading, effort is made to seek out occupational cancer risks, carcinogenic factors in industries, in the environment, and in our habits. When hazards are found, protective measures are urged in order to prevent exposure to such carcinogenic situations.

The cancer problem is so widespread and so complex that no individual nor any single group can expect to make satisfactory progress when working alone. The health resources of the entire community must be enlisted in the task of cancer control. While every town and village cannot have its own team of professional workers highly versed in the management of cancer, every community can and should become intelligently "cancer conscious." Its citizens can study the problems of cancer control, learn the early signs and symptoms, expand cancer facilities and services as needed, and make every effort to assure prompt, competent care for all cases. Complete eradication of cancer will depend largely on the ever-widening horizons of medical science. Meanwhile, there is much work to be done on the home front. The challenge lies before us.<sup>1</sup>

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1. Background information obtained from the *Cancer Control Manual*, New York State Department of Health, 1952.

ACROSS THE DESK — *Continued from Page 100***Schlesinger Statement**

In the February 6 Congressional Record, Congressman T. M. Pelly (R., Washington) entered this statement: "Mr. Speaker, last week newly appointed Presidential Assistant Arthur M. Schlesinger, speaking as a private citizen and not as an Administration spokesman at Newton College of the Sacred Heart in Massachusetts, made the statement that a welfare state is the best defense against Communism. I repeat, Mr. Speaker, this Harvard College history teacher whom President Ken-

nedy has appointed as an intimate White House aide and adviser believes and is telling our youth that the welfare state is the best defense against Communism." . . . Rep. Pelly pointed out that Mr. Khrushchev recently declared that "small doses of socialism" would eventually bring about Communism in America. . . . "God save the President and this Nation from some of his socialistic friends," concluded Rep. Pelly.

Council On Legislative Activities

**Book Review**

**Mental Retardation: Proceedings of the First International Medical Conference** — Edited by Peter W. Bowman, M.D., and Hans V. Mautner, M.D. Grune & Stratton, New York and London, 381 Park Avenue South, New York 16, New York, 1960.

With acknowledgement that the publication of this volume has been made possible through the generosity of the Lt. Joseph P. Kennedy, Jr. Foundation.

This is a sturdy, solid volume of 530 pages including a short appendix which prints the committees and an appreciation for the assistance furnished by local, state and national organizations, also an index of subjects presented to the Conference.

Before undertaking a review of the imposing array of subject matter discussed at the Conference, this writer would like to take space to pay service tributes to the members of our Maine Medical Association who conceived the plan for holding the Conference in Portland, Maine; had the courage to nurse the plan along, and the ability and determination to bring to realization a successful and historic occasion; Dr. Peter Bowman and Dr. Hans Mautner with vision complimented with realism proved to be stalwarts, Dr. Ella Langer, Dr. Edmund Ervin, Dr. Alice Whittier, the Doctors Davidson, Dr. Francis Fox and Dr. Daniel Hanley were among the group of doctors who gave strength and support to the undertaking. And many local, state and national organizations offered real and helpful sponsorship.

On the preface prepared by Doctors Bowman and Mautner,

hope is expressed that a permanent international forum may be established "to insure continued communication and organized and deliberate progress to deal with the growing problems of mental retardation."

The book presents the name of the participants, 80 in all, and their subjects in a clear and distinct table of contents.

Trained especially in the many aspects of mental retardation, the variety of speakers indicates a wide and deep discussion of the problems surrounding mental retardation.

The anatomy of brain, cord and general nervous system; the chemistry of blood changes in mental retardation, the affects of infection, the influences of congenital and developmental defects, symptoms and signs, treatment and pathology; all above mentioned subjects are presented, accompanied with clearly defined charts and excellent photographs.

Thirty-nine titles appear in the table of contents, all but two of them are in English. It is a massive collection of scientific information about mental retardation. I dare say that it is the most complete compilation of material on the subject to be found in the world literature. The print is clear, good-sized and the text well arranged in paragraphs. One must, I think, consider the volume a work of high merit, a treasure-house of valuable information and, indeed a monument to the original proposers and their associates.

THOMAS A. FOSTER, M.D.  
Portland, Maine

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# The Journal of the Maine Medical Association

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No. 4

## Newer Diagnostic Techniques In Gastroenterology\*

IRVING J. POLINER, M.D.\*\*

In the diagnosis and treatment of all illnesses the history and physical examination plus older proven procedures remain the foundations. The gastroenterologist, like all clinicians, is always seeking new diagnostic methods. In recent years many different techniques in gastroenterology have been perfected. Those showing the most promise are discussed in the following paragraphs.

**ESOPHAGUS:** Flexible Esophagoscope:<sup>1</sup> The Eder-Hufford Esophagoscope has been made "flexible" by the use of an obturator which extends beyond the instrument. This flexible esophagoscope is easily introduced into the esophagus (as easily as the flexible gastroscope). The obturator is then withdrawn and the esophagus visualized directly. This instrument, once in the esophagus, is then advanced under direct vision. Biopsies and removal of foreign bodies can be done as with the standard esophagoscope. This flexible esophagoscope insinuates itself into the esophagus easily so that general or local anesthesia is not needed. As with the gastroscope, sedation with a barbiturate and meperidine (Demerol)® is all that is needed. There have been no reported perforations with this instru-

ment (as have occurred with the rigid instrument). The flexible instrument is inserted "blind" into the upper esophagus; this is its main disadvantage. It should be used cautiously with lesions in this area.

**STOMACH:** Gastric Photography: The gastroscope has been adapted for picture taking. A 35 mm. reflex camera is connected to the eyepiece. With super fast color film, pictures of lesions viewed through the camera-gastroscope can be taken. These pictures can be studied by many physicians and compared with other films. The gastroscopist and radiologist soon will have similar techniques.

**Gastric Biopsy:**<sup>2</sup> In 1949 Wood developed a tube which biopsies the gastric mucosa. This tube, completely flexible, is introduced at the bedside through the mouth without anesthesia or any special procedures. Working on a suction principle, the depth of the biopsy is regulated by the size of the opening in the tip. Perforations, which occur with the Benedict Operating Gastroscope, have not occurred; the biopsy does not go below muscularis mucosa. While this is a "blind" biopsy, it can be repeated as often as necessary. A normal prothrombin time is the only limiting factor. Over 10,000 biopsies have been done without any deaths. The reported bleeding episodes have been associated with bleeding, clotting or prothrombin defects. The diagnosis of lymphoma, carcinoma, gastritis, and gastric atrophy have been confirmed by this method.

\*Presented in part at the staff meeting of the Webber Hospital, Biddeford, Maine, February 9, 1961.

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**Fluorescence Gastric Cytology:**<sup>3</sup> The study of cells from gastric washings has been helpful in differentiating benign from malignant lesions. Four or more slides are studied each for twenty minutes by a cytotechnician. The slides are then reviewed by the pathologist. This expenditure of time and money has been reduced by means of fluorescent staining. A bright fluorescence results from the presence of relatively large amounts of ribonucleic acid in the cytoplasm of proliferating cells. Proliferation rates of most malignant cells far exceed the normal rates of cell renewal; hence, the much greater concentration of ribonucleic acid found in malignant cells. The nuclei of cancer cells also may have a higher content of desoxyribonucleic acid. With this technique suspicious cells are more quickly located and can be studied carefully.

**SMALL BOWEL:** Peroral Small Bowel Mucosal Biopsy:<sup>4</sup> In 1957 Crosby perfected a per oral method to obtain a small bowel mucosal specimen. The intestinal biopsy capsule is 17 mm. long (approximately 2/3 inch) and 11 mm. in diameter (approximately 1/3 inch). It contains a spring-actuated cutting blade. Polyethylene tubing (18 bore) enters the capsule at one end. The length of the polyethylene tubing determines the depth of penetration into the small bowel. Suction through the tubing pulls the mucosa into the capsule; further suction activates the knife blade which cuts off the mucosa and closes over the hole in the capsule. The capsule and specimen are then retrieved by the polyethylene tubing. The biopsy capsule is passed at the bedside without anesthesia. The capsule can be repeatedly passed to obtain as many specimens as desired. The only limiting factor is a bleeding or clotting defect or a prothrombin time less than 60%. Over 500 biopsies have been reported without any deaths or serious complications. Occasionally the knife blade does not cut cleanly; the capsule cannot be withdrawn; the polyethylene tubing is cut; and the capsule is recovered in the stools. Numerous biopsies have clarified celiac disease, non-tropical sprue, tropical sprue, pancreatic and post-gastrectomy steatorrhea, Whipple's disease, lymphoma, and regional enteritis. Recently Rubin<sup>5</sup> reported on a triple lumen tube by which numerous small bowel specimens can be taken at one time; the specimens are immediately delivered through one lumen by a column of water. Whether this tube is better waits to be seen.

**LIVER:** Menghini Biopsy Needle:<sup>6</sup> In 1958 Menghini constructed a new liver biopsy needle. The specimen is obtained through a hollow needle by suction. A small valve at the base of the needle prevents the

tissue from entering the syringe and being macerated. The tissue is then gently flushed out of the needle with sterile saline. The diameter of the specimen is approximately that obtained with the Vim-Silverman needle; but since there is no trocar the outside diameter is approximately one-half that of the Vim-Silverman needle. The specimen can be obtained in one second compared with 5-10 seconds by the older needle. In cirrhosis, however, the cutting effect of the Vim-Silverman needle seems to deliver a more intact specimen. It is easier to obtain a liver biopsy with the Menghini needle, and probably safer.

**ENTIRE G.I. TRACT:** Cinefluorography:<sup>7</sup> With the recent advances in electronics, it has become possible to intensify the image obtained at fluoroscopy. This image can be then photographed on 16 mm. moving picture film. The movement of barium within the gastrointestinal tract can be studied over and over; meanwhile, numerous individual films are obtained by studying each individual frame. This has added greatly to the study and diagnosis of functional or motility disorder of the gastrointestinal tract.

#### SUMMARY

Newer diagnostic techniques in gastroenterology are discussed. Further experience will show whether they add anything to our present methods. It is emphasized that an adequate history and physical examination remains the most important "technique" in the diagnosis of gastrointestinal disorders.

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235 State Street, Portland, Maine



# Changing Concepts In The Management Of Cancer\*

DANELY P. SLAUGHTER, M.D.

In the last ten years possibilities of human cancer control have changed more than most of us dream of, and although the result may not be apparent yet, I think we are just coming into a crescendo phase in what we can do for the patient with cancer.

Surgery and irradiation have become the principal modalities in the treatment of cancer at the present time, but the results of such therapy are now leveling off close to their peak potential. Until organ transplantation becomes a routine procedure, surgery by itself cannot achieve any significant increase in the cancer cure rate. The same is true for techniques in the use of various forms of ionizing radiation, until chemotherapy is developed which makes the cancer cell more vulnerable to irradiation than it now is. Metastatic dissemination of malignant cells is the principal deterrent in any event to successful treatment of cancer by either surgery or irradiation, both forms of management being essentially focal in their effect.

On the horizon, however, there are new possibilities being opened through research into many facets of the problem. Our knowledge of the fundamental aspects of the origins of cancer are being rapidly expanded, and further research areas are materializing. Variations in the incidence of cancer in differing ethnic groups have been explored, and both answers and new questions have developed.

For instance, why is cancer almost non-existent in the Navajo Indians, and why is cancer of the nasopharynx almost a racial disease among the Chinese, not only in Asia but all over the world? Why is choriocarcinoma in women more common in Burma, Indonesia, and Southeast Asia than elsewhere in the world?

Modern epidemiologic studies are rapidly turning up regional and racial differences in cancer for which reasons should eventually be found. These studies point the way to practical plans for real cancer prevention, as exemplified by the findings that circumcision in the male is a major factor in minimizing the incidence of cancer of the uterine cervix, and virtually eliminates penile cancer. Another example of such a result is the known high incidence of hepatoma among the Bantu natives of Southeast Africa, and the research

showing that it is due to an easily replaced dietary deficiency factor.

Prophylaxis of cancer will be, in the author's belief, the major break-through in the control of this disease. It is more important to prevent than to treat, and I believe that we are now entering into a major attack on this phase. The great strides already made in the understanding, and thereby control, of environmental cancer, particularly in industry, are indicative of tremendous future possibilities.

We are learning much more about the etiology of cancer, and as the causes become apparent they should be eliminated. At present our concept of etiology comprises the categories of physical agents, chemicals, altered physiologic processes, viruses, and possibly related to the latter, heredity.

The common physical agents known to cause cancer are various forms of radiation, from sunlight to gamma rays. Radiation skin cancer is well known and preventable, but we have only recently become aware that bone sarcoma, leukemia, soft part sarcomas and carcinomas of mucous membranes can also result from such exposure. Thyroid cancer in children is almost certainly due to X-radiation given in infancy, usually for thymic enlargement. Burn scar cancer is another example, but this is due not to the immediate thermal effect, but to the altered vascular physiology of the resultant scar. This is preventable by the proper treatment of the original burn.

Many chemical carcinogens are known, and this knowledge is of importance in animal laboratory research and also in practical prevention of cancer in man. The most recent example of the latter is the brilliant research in England which traced the metabolic changes in the carcinogenic chemical absorbed by aniline dye workers, which causes cancer of the urinary bladder. In tradition the chemical degradation through absorption, passage through the liver, and eventual renal excretion, it was found that giving saccharine tablets by mouth converted the final carcinogenic excretory product to a harmless glucuronidase, thus eliminating the disease.

Such investigations into altered physiology are opening new pathways of research. Cirrhosis of the liver has long been known to be associated with primary liver cancer, but this condition has recently been implicated as a background cause of oral cancers and

\*Presented at the 107th Annual Session of the Maine Medical Association, June, 1960.

probably others. Variations in the endocrine interplay in the individual are now suspect as importantly related to the initiation of neoplasia in tissues which are specifically under hormonal control.

The role of viruses has rapidly become a focal point for study in relation to the etiology of certain forms of human cancer. It has been proved that viruses are the initiating agent in several different animal tumors, and that there are human analogies is almost certain. A research report at the surgical forum of the American College of Surgeons in September, 1959 stated that malignant tumors in animals had been produced by Seitz filtrate extracts of human cancers. The role of viruses in heredity is also being explored, as it has been demonstrated that the protein composition of mitochondria in the cell nucleus and genes is essentially that of a virus and may actually be such.

All of the foregoing has been a review of the future prospects of actual cancer control. As to the patient who has cancer today, there are a number of recent modifications in treatment methods which give him a better chance of survival. Some of these changes are based on refinement in techniques, in surgery due to better understanding of the natural history of various forms of cancer, and in radio-therapy due to development of new equipment.

Improved results from surgical management of cancer have come from two categories of change in surgical approach, one being extended excisional surgery, and the other being recognition that the surgeon himself may kill the patient by spreading the cancer through inept surgical maneuvers.

Modern surgery, largely due to advances in the ancillary surgical sciences, is capable of such feats of anatomic excision that in some cases we have passed the point of human usefulness. However, there are certain areas in which so-called "super-radical" surgery gives superior salvage rates.

In post-radiation recurrent cancer of the oral cavity, monobloc neck, jaw, and tongue procedures can cure some patients who are hopeless from the standpoint of further irradiation, or lesser surgical exercises. In cancer of the extrinsic larynx or hypopharynx the same surgical principle has achieved a 30 to 40% salvage rate, as opposed to the less than 10% survivals following irradiation. Internal mammary node dissection added to the standard radical mastectomy for lesions of the medial quadrants of the breast will increase somewhat the survival figures, on the order of 5 to 10%. Extended excision of lung and gastric cancer, including mediastinal node dissection in the one case and splenectomy, distal pancreatectomy, node dissection, and so forth, on the other, will probably not salvage more than an occasional patient.

The venous invasion potential of these tumors, in the one instance through the pulmonary veins into the left ventricle and in the other through the portal system to the liver, precludes any great increase in cure rate by

excision of the regional lymphatics. Wider resection of cancers of the colon, particularly in the distal colon, would appear to have real promise of better results. Wangenstein's concept of the "second look," and third and fourth if necessary, seems to have a useful place in those patients whose tumor has lymph node metastases or serosal involvement.

Surgical management of pelvic cancer, particularly of the uterine cervix, has produced an increased salvage rate. Brunschwig has reported an 83% five-year cure in stage one lesions, and the operation of pelvic exenteration has, without question, saved some individuals whose cancer was hopeless from any lesser approach or further irradiation.

Partial hepatectomy has very rarely proved of use for metastatic cancer, but either right or left hepatic lobectomy for primary hepatoma is now considered to be a worthwhile effort. The hepatocellular carcinoma that occurs particularly in younger children and even infants, is now recognized as being surgically curable in a reasonable percentage of patients.

The realization that many malignant tumors constantly shed viable cancer cells in any one of three directions has modified surgical therapy of cancer. Lymphatic spread of carcinoma has been obvious, but the propensity for venous invasion of adenocarcinoma has only recently been appreciated. That the surface of a cancer, whether it be intraluminal or on a serosal surface, may shed living cancer cells which can implant and grow, is only now being recognized as an actuality, and surgical technique has necessarily been modified.

The demonstration of cancer cells in the peripheral venous blood, before and during surgery, has also forced a reappraisal of surgical techniques and attitudes. Specifically, the demonstration of cancer cells in the venous drainage of a cancer site during surgery (Turnbull, Cole and Southwick), has led to the practice of deliberate ligation of the arterial source and venous drainage of any cancer site to be removed, whenever possible. This applies mainly to tumors of the colon.

The evidence indicating that viable cancer cells cast off into the lumen of the gut may implant themselves in raw edges, or be carried by sutures into the wall of the bowel at the site of anastomosis, has added the practice of ligation of the gut above and below a tumor site, in addition to vascular ligation, before manipulation of the tumor bearing area. Recurrences at the suture line of anastomoses may be eliminated by these precautions, not to mention avoidance of hepatic or pulmonary metastases due to showers of cancer cells released in the venous drainage area of a tumor during surgical manipulation.

Recent studies of the occurrence of cancer cells in the peripheral venous blood have startling implications. It has been demonstrated that the number of such cells recoverable from the arm veins is tremendously increased during surgical manipulation, with disappearance of the cells when the tumor is removed.



It is almost frightening to realize that such simple procedures as a dilatation and curettage can produce cancer cells demonstrable in a blood sample taken from the cubital veins. Such cancer cells have now been found in peripheral venous blood from primary tumors of the ovary, endometrium, gastro-intestinal tract, lung, breast, thyroid, and others. This means that cancer cells loose in the bloodstream can pass through the liver, through the lung, gain access to the arterial circulation, and return in the venous flow.

This fact has at least three present meanings: One, surgeons can minimize the shedding of cancer cells into veins by gentle handling of the tumor site. Secondly, there must be an important factor of immunity in the host-tumor relationship. This latter observation is of extreme importance for future cancer research. The third facet is the current use of adjuvant chemotherapy during and immediately after surgery, to inactivate viable cancer cells in the circulation. This attempt is based on animal experiments which indicate that "takes" of certain transplantable tumors can be prevented by immediate chemotherapy.

Current human clinical experiments are inconclusive, and also dangerous enough to confine such chemotherapy to pure clinical investigation. It is by no means ready for general or approved usage. The theory that a cancer cell free in the circulation, or newly implanted in alien tissue, is more susceptible to cellular poisons is a reasonable one. That an established and flourishing metastatic focus, with its own blood supply functioning, would be as susceptible is less credible. This has been demonstrated in animal experiments. Chemotherapy of established cancer is only palliative at best at the present time.

Deliberate alteration of the endocrine milieu of a patient with incurable cancer of the breast, prostate, or thyroid has yielded a worthwhile return in palliation, with occasional astonishing long term results. It is beyond the scope of this review of "changing concepts" to detail the variations and contrapuntal, patterns of steroid hormone changes that are in current usage. The steroid modifications consist of both ablative and additive procedures, whose sequence have been fairly well standardized as of this moment. This approach has been of greatest use in the palliation of cancer of the breast and prostate.

Radiotherapy of cancer has become more effective through two processes, the first consisting of more precise definitions of clinical situations where irradiation may be of curable or real palliative value, and the second being the development of super-voltage or high energy sources of radiation. The latter has not produced a clinical yield as great as we at first hoped, but certain clinical areas have been distinctly improved.

The use of radio-cobalt as an external source, and the use of radio-active iridium as an interstitial source, appear to be real advances in the radiotherapy of squamous cell cancer of the head and neck. Cobalt, the betatron, and the linear accelerator will deliver a greater tumor dose in depth than conventional X-ray modalities, and are of particular use in treatment of lesions of the mediastinum, retro-peritoneal, and pelvic regions. The electron beam, with its controllable penetration, is of real promise in the treatment of more superficial lesions.

#### SUMMARY

The present horizons of the possibilities of improved cancer control in the future, comprise the aspects of:

1. Prophylaxis, through more complete understanding of all the factors of etiology, physical, chemical, viral, patho-physiological, and heredity;
2. More effective surgical management by "super-radical" procedures in selected patients, plus endocrine and chemotherapy alterations as adjuvants;
3. Improvement in results from radio-therapy by more concise recognition of indications for its use, and by newer modalities which can deliver greater tumor doses of radiation more accurately.

Another form of management that has become at least activated with considerable interest lately, is profusion in the use of chemotherapy to produce isolated arteriovenous systems. This has created quite a flurry of interest, but I can assure you it is still only of a palliative value, although sometimes rather astonishing regressions can be created. It is perfectly possible and it is being done routinely, to isolate the circulatory system of an extremity and profuse it with blood treated with chemotherapy derivatives that are now available. This can be done to the kidney, the lung, the upper extremities, the pelvis, segments of the bowel, and so forth, by isolating this arterial system.

Now "isolating" is a nice word and it can be used quite glibly, but these attempts can be dangerous because there is at least a 30% spill-over in the systemic circulation in most of the attempts that have been made. This is detected, of course, by using radioactive, iodinated plasma, and checking peripheral blood samples aside and away from the profusion area. But there is a spill-over, and the advantage, of course, is that by profusion we can give a tremendously increased exposure of dosage there without systemic poisoning and bone marrow effect. We can isolate these areas, but don't forget that the spill-over is at least 30% in practically all of the arterial systems so far profused except in perfusion of the extremities.

# A Primer Of Psychiatry\*

ROBERT O. JONES, M.D.\*\*

Psychiatry may best be defined as a study of unsatisfactory human behaviour. Very commonly students define psychiatry in terms of mental illness or diseases of the mind but since the definer usually has no clear idea of what he means by "mind" this is of little real value. Behaviour is something that can be described, studied, and modified. It thus becomes much easier for medical and nursing students to think in objective terms and does away with much of the mystery surrounding psychiatry.

Unsatisfactory human behaviour may result from three main causes. First, defects in brain structure or in other organs of the body affecting brain function. Second, mal development of intellectual processes. Third, disorders of human emotions. While the first two form interesting groups it is generally realized that they are insignificant as causes of behaviour disturbances compared to the third, disturbances of human emotions. I am therefore going to concentrate this discussion on the psychiatry which has to do with disturbed human emotions.

From the point of view of medical practice, psychiatry can be divided into three main groups. These groups are, first, the psychosis, a technical term for what the ordinary layman means when he says "insane" or "crazy." It is a sweeping behaviour disturbance which is distinguished particularly by the fact that the patient's relationship with the real world is distorted. He no longer appreciates reality as it is but rather interprets it in terms of his innermost feelings. For example, he is depressed, feels that he is no good and the world would be better off without him. If he goes in a restaurant and gets a bad plate of soup, he feels that the cook knows how worthless he is and is trying to poison him, not that the restaurant has a bad cook.

Second, the neuroses. These are complaint disorders in which the complaints do not depend on any physical causes but depend on disturbed emotions. You will note that this definition says nothing about imagination — neurotic complaints are not imaginary. If one vomits when one is afraid that one is pregnant, the vomiting is just as real and the stomach of the vomiter just as uncomfortable as if one vomits when one really is pregnant. Certainly the nurse who has to clean up the mess would not agree that this is imaginary vomiting. Un-

fortunately, the same nurse might be telling the patient that the headache which does not depend on brain tumor is really something which is just in her mind.

Third, psychosomatic disorders in which there is a definite physical lesion present but where it is felt that emotional upsets may contribute at least in part to the etiology of the physical lesion. For example, we all know that if a person is embarrassed, he may blush. There is no doubt that under these emotional circumstances there is a real change in the blood supply of the skin. It is suggested that if a person is chronically embarrassed and there is a constant change in the blood supply of their skin that this may be a factor in some chronic skin diseases. The work of Harold Wolff and Stuart Wolf has also shown that people blush with their stomach as well as with their skin and they have produced good evidence that this might well be a factor in gastric ulcer. The present surgical trend for denervating any organ which seems to be causing trouble is a recognition of the importance of emotional upsets in large numbers of stomach conditions. These then are the main groups of behaviour disorders that are of interest to the doctor. By and large, they are problems involving upsets of people's emotions.

If the above statement is true, then an understanding of these conditions depends on some understanding of emotional pathology. One of the big changes that has occurred in medical education since my own education ten or fifteen years ago, is the realization that emotional pathology is just as important to the doctor as physical pathology.

I shall try very briefly to summarize some of our modern concepts regarding emotional pathology. First, what do we mean by emotion? I would define it as the feeling tone which accompanies certain needs of our organisms. We have primitive biological needs such as hunger and sex but we also have social needs which depend on such things as our desire to be loved, our desire to be looked up to, to have other people esteem us and to esteem ourselves. These social needs are often as important today as the biological needs. If it is possible to gratify these needs we experience a pleasant emotion. If these needs are not gratified, we experience an unpleasant emotion. Ungratified needs lie behind most of the psychiatric illnesses enumerated above. Sometimes these needs are not gratified because of difficulty between the need and the environment in which we live. For example, most of us in the medical profession have just as much need to build up our self-esteem by driving a Packard as the surgeon does but our medical economic environment does not permit it.

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However, we are usually able to adjust fairly well to these conflicts between our inner needs and our environment. More important is the fact that we may not be able to escape conflict because of divergent needs within our personality. There are few of us for example that at times do not experience feelings of one sort or another inside us that we cannot express because of other groups of needs also within ourselves, having to do with morality, ethics, self-advancement, etc.

In our culture the two big groups of needs that cause difficulty of this sort are sex and aggression. Most of us at times feel sexually attracted to persons towards whom we are not able to express this feeling, because of other needs in our personality. Similarly, we frequently feel angry and hostile toward people, parents for example, with whom we feel it wrong to be angry. In other words, it is possible to develop conflicts in our own personality. When conflict develops it results in an unpleasant emotion which we call anxiety.

Anxiety has become a most important focal point in modern psychopathology. When the person experiences the emotion of anxiety he may express it in one of these three ways: first, directly, he is frightened and tense, anxious, his heart is pounding, short of breath, has anxiety dreams, poor sleep, is unable to concentrate, has indigestion, pains in the back of his neck, fatigue and so on. This is the common situation in the neurosis and is most commonly called an anxiety state.

Second, he may build up a certain defense against anxiety, this means that he may develop certain modes of thinking or acting which protect him from a recognition of his own unpleasant emotion. As an example of this is the thing which is called compensation. A little boy going through the graveyard scared to death of the ghosts that may be there, whistling at the top of his lungs to convince both the ghost and himself that he is not frightened, or the mother frightened and anxious about the fact that her child is not getting on in school, who says that the teacher is not giving her child a square deal, puts all the blame for her child's mental defect over on the innocent teacher. This is called projection and keeps her from going through the emotional anguish of recognizing that her child is mentally defective. These defenses are sometimes seen in neurotic conditions but are very commonly seen in the psychosis where the defense becomes so strong that it breaks down completely the individual's relationship with the real world.

Third, in some individuals, anxiety seems to be able to be channelled toward one particular organ and cause a chronic dysfunction of that organ which may eventually result in actual physical changes in the organ. This is the sort of thing seen in psychosomatic illness, hypertension, gastric ulcers, etc. It would appear then that a large part of psychiatric illness or behaviour disturbances is the result of emotional conflict which results in anxiety. The actual form that the disturbance will take will depend to a very large extent on how the

individual handles his anxiety. One of the big mysteries in psychiatry at the present minute is why one person handles anxiety in one way and another handles it in another. To a very considerable extent we just do not know what determines which way we shall handle the problem.

Perhaps the question of inherited patterns of behaviour or constitutional types may be of some importance in this problem, but I feel it should be stressed that a fatalistic attitude about heredity in emotional illness is not justified and is frequently overdone. Too often adequate treatment is withheld or attention directed to the wrong things because of overconcern with inherited factors.

If real help is to be given to any of these psychiatric problems, the patient and the physician must understand their emotional origin and steps must be taken to ease the emotional tension and anxiety which produce one or the other types of symptom.

Before going on to treatment, however, I feel that there is a great need to say something about the diagnosis of these emotionally determined illnesses. In the past, our teaching has always been that it is a very great disgrace to miss physical illness and to say that a patient was not neurotic if there was any physical illness present. On the other hand, we felt that the patient was neurotic if we were not able to demonstrate physical illness. Neither of these viewpoints are correct. It is very possible for neurosis and physical illness to exist in the same patient. We do great harm to the patient with emotional disturbances when we either refuse to recognize the emotional source of his cardiac palpitation and hint that he has heart disease or when we unjustly blame a pair of tonsils or kinked appendix for everything from inability to swallow at one end of the gastrointestinal tract to diarrhea at the other end. I would like to suggest to you that it is just as serious to misdiagnose emotional pathology and often thus to convert the patient into a chronic invalid as it is to misdiagnose physical pathology.

Emotional pathology is not diagnosed by the exclusion of physical illness. It is diagnosed on positive evidence in exactly the same way as physical diagnosis is made. This positive evidence, however, is obtained by taking the proper history; that is, by listening and conducting a satisfactory interview with the patient. (If, at the end of that interview we are able to demonstrate the positive signs of disturbed emotions, then we can say that the patient is neurotic whatever physical disease he may have. If, however, at the end of the interview, we have discovered no positive signs of neurosis we cannot make that diagnosis, no matter how many negative X-rays he may have.) Very briefly, the positive signs of neurosis are the following. First, the presence of anxiety. Nearly every neurosis is characterized at one time or the other by the ordinary signs of anxiety, cardiac palpitation, indigestion, difficulty getting to sleep with anxiety dreams, symptoms of muscular tension, for



example, pain in the back of the neck, shortness of breath, difficulty in swallowing and so on. (These symptoms may not be present at the time of examination but we will certainly be able to demonstrate them sometime in the life history of the neurosis.) Second, the personality makeup of the patient. Characteristically the neurotic person is an anxious, worrying type of person. This may show itself as excessive fears, as excessive tidiness, as inability to get along with people, as feelings of inferiority and all sorts of other things but there is nearly always the evidence of an unstable personality in the neurotic. Third, the previous history. Neurosis nearly always have their beginnings in childhood. Typically, the life history of the neurotic symptoms in early life such as bedwetting, night terrors, often difficulty during the school years (perhaps the person had to stop school because of nervousness) very often repeated periods of breakdowns through the person's life. The medical history is often revealing in this regard. Diagnosis of low blood pressure, anemia, being run down and often surgical diagnosis such as appendicitis, if inquired into give clear evidence of a neurotic trend. It is important I think in taking histories that we do not accept these diagnosis from the patient's past as necessarily being valid without inquiring as to what the disease was like. For example, a few years ago we had a woman at the Victoria General Hospital who gave a past history of rheumatic fever. Because of vague fever and aches and pains at the time of her admission, it sent the medical department scurrying for evidence of rheumatic fever in the present illness and for evidences of heart damage. When such evidence was not forthcoming a psychiatric consultation was asked for. When I inquired into what her past rheumatic fever was like she told me very dramatically of the paralysis of her hands in a semi-clenched position, the pools of sweat which gathered in her hands and gleefully about the thirteen bottles of salicylates which had not improved her in the slightest and how she was cured by a chiropractor in one treatment. Certainly all this points to hysteria more than rheumatic fever and further contact amply bore out this diagnosis. If one will develop the habit of saying, "well what was your appendicitis like, or why exactly was your uterus removed?" one will often find evidence of neurosis which will otherwise be overlooked. Fourth, there must be a precipitating cause for the neurosis. Neurosis develop in a particular type of personality but they are always a response to some particular cause. If one cannot find what brought on the present exacerbation of symptoms then one should have considerable hesitation about the diagnosis. Fifth, the family history should be a type which will explain the development of a neurotic personality. Neurotic personalities do not result from heredity but they result from catching neurotic trends from parents and other important people in the environment. Typical sort of findings in a neurotic family is a broken home, parental dissention, placement in an

institution, overcritical parents, overharsh parents, in other words, things happening which destroy the child's self-confidence and made him a prey to anxiety during the rest of his life. The type of family history which says parents living and well, no history of diabetes, tuberculosis or mental disease is worthless in the investigation of a neurotic patient. If then, at the end of a satisfactory history we find the above signs present or absent, we then can decide whether the patient has an emotional disturbance or not. This does not mean that his present symptoms are necessarily the result of emotional disturbance. It is quite possible to have an appendicitis as well as having a neurosis, but it does mean that an emotional disturbance must be taken into account in his general handling and should receive treatment as well as his physical disease.

#### TREATMENT

This then, brings me up to the final and perhaps the most important issue — that of treatment. Before going on to specific methods of treatment, I would like to point out two attitudes which I think are basic if treatment of emotional disorders is to be successful. The first is that the physician undertaking the treatment of this sort of disorder must have a respect for people, must have the feeling that these types of disorders are things that could happen to any of us under the proper circumstances and must not have a "better than thou" attitude toward the neurotic. He must believe that this is real sickness and it is part of his job as a doctor to try to do something to help. Second, he must base his efforts to help on the general theme of honesty. Essentially we help patients emotionally disturbed by the type of relationship we build up with them. If patients trust us, have confidence in us, and believe that we wish to help them, nearly anything we do will often give them at least some benefit. If on the contrary, we tell them things that are not true and they find that out, then nearly anything we do will make them worse. (This basic attitude of honesty, comes out particularly when it is necessary to send emotionally disturbed patients to hospital.) It is much better to tell them honestly what our opinion is, that they must go to the hospital, and that the family and ourselves are going to see that they are going to hospital even if we have to take them by force, then to trick them into going by telling them that they are going to see Aunt May, and then they suddenly find themselves in a locked room. Immediately all confidence is destroyed and the job of the hospital is many times harder. This is true when we have to tell people that their disturbances are the result of emotional upset. It is dishonest to tell them that they are just run down, that there is nothing wrong, they need an operation or all sorts of other things that we constantly hand out to them. It is much better to try honestly to explain the condition and enlist their help in trying to correct the situation. On the basis of honesty with our patients, we have in



general two methods of approach to problems of emotional illness. First, physical methods — electroshock treatment, insulin shock treatment and prefrontal lobotomy. Second, psychological treatment which may include (a) changes of the patient's situation or (b) changes in the patient's personality makeup to allow him to face the difficult situation. This is the approach which is called psychotherapy.

I will try to describe briefly each of these and point up some of the indications for them. First, the physical methods of treatment. These are primarily of value in that group of psychiatric illnesses which I have described as a psychosis or insanity. They are not of value for the nervous patient, the neurotic patient, or the psychosomatic patient. In fact, very often they do patients of this kind harm. (All of these treatments carry certain risks in their use. It must be admitted that those risks are not very great but they should not be prescribed lightly). To be more specific in their indications: in general, psychoses which are characterized by marked changes in the patient's mood, that is by strong feelings of depression or elation will respond to electro-convulsive therapy. It is thought to be particularly useful in the manic-depressive group and the involutional melancholia. Psychoses which are characterized by disturbances in the content of the patient's thinking, that is by the development of delusions and hallucinations, frequently do well with insulin therapy. However, insulin therapy is not as useful for this group of psychoses which are ordinarily called dementia praecox or schizophrenia as electro-convulsive therapy is in the depressions. It is also very important if insulin treatment is to be of value, that the patient receive it early. Recovery rate goes down hill rapidly after the first year of the illness. In young people then who develop behavior changes, become more seclusive, who seem to have peculiar ideas, it is important to seriously wonder about the possibility of a schizophrenia and if the condition goes on, to seek proper diagnosis and possible insulin treatment just as early as possible. The third method of physical treatment, lobotomy, is today pretty much a last resort sort of treatment. It is used particularly in the chronic schizophrenic patient and frequently there is some value. (We also use it in the depressed patients, who, for one reason or other, either cannot have electro-convulsive therapy or do not respond. For example, we have recently done a lobotomy on an agitated depression, who also has tuberculosis which is a contraindication to convulsive therapy.) It must be recognized that lobotomy is an operation which destroys some areas of the brain and it is impossible to destroy areas of the brain and have a patient exactly the same as he was before. It is true that commonly in the patient who has been lobotomized, we are exchanging a set of organic symptoms for a set of emotionally determined symptoms. The patient is likely to have apathy, loss of initiative, occasionally convulsions to a greater or less degree after his operation. However, in many cases

these symptoms are not as troublesome or as serious as his original symptoms and in some cases are so slight that they are practically unnoticeable. (We still have a great deal to learn, however, about selecting suitable patients for lobotomy.)

The other method of treatment, that is psychological, depends on discovering what the emotional causes of the patient's illness are and being able to rectify these causes either by changing the situation or by helping the patient to make some changes himself which will allow him to live with this situation without becoming ill. The first method known as situational therapy is obviously relatively limited in its scope because usually it is not wise or possible to change patient's situations. Sometimes it is necessary, however, for example, with children who are emotionally disturbed, perhaps because they are in the wrong grade in school or because they do not have enough recreational contacts or something of that kind. The second group of procedures are applicable to patients of average intelligence, who have not had their neurosis for too long and who are anxious to help themselves, and then to utilize their relationship and knowledge to make some changes in their basic personality. This is the procedure which is known as psychotherapy. It is long, drawn out commonly and probably requires a good deal of psychiatric understanding if it is to be successful. There are many patients that have not the personality resources to profit by such treatment. There are others who have been mishandled, for example by repeated surgery with stories of adhesions being pounded into them so that they are no longer able to make changes in themselves and there are others who geographically or financially are simply not able to get the help they need to make these changes. Thus, there will be a big load of psychiatric patients who cannot be handled with these basic techniques and will have to be handled by the practitioner with his daily work. I am not suggesting that if he is interested in the psychotherapeutic approach, he cannot do a great deal to modify the patient's personality as well, but a good deal of his treatment of psychiatric patients will be on a supportive level.

I am going to offer some suggestions which I feel are important to the supportive handling of patients of this type. I might say that this is a modified version of a similar list of suggestions given by Weiss and English in the second edition of their monograph on psychosomatic medicine. Before I go ahead with these I would like to point out two things that are done which should not be done. First, these patients should not be advised to marry in an effort to improve their general condition. Marriage is something which is for mature people. For the most mature people, it demands a good deal of ability to adjust. The neurotic person cannot do this and is likely to be made worse. Second, babies are not psychotherapeutically effective either. Commonly, they add more difficulty and more responsibility which is badly taken by the neurotic patient.

The general principles important in handling such patients are the following: First, allow yourself time to get a proper history and allow the patient to tell you how he feels. Listen rather than talk.

Second, look on the patient as a person and not a specimen from the pathological museum. Think of him in terms of his personal makeup and the problems he has to face, rather than in the heart, lungs category.

Third, make the physical examination which is necessary to make you confident that you have not missed physical disease. Further and repeated examinations are more likely to make the patient feel you are unsure than to reassure him.

Fourth, having satisfied yourself as to the patient's condition, explain it frankly to him. Tell him what you found as far as physical disease is concerned and explain its importance. Reassure him particularly regarding the absence of cancer and the fact that because he is nervous it does not mean that he is going to develop a psychosis. Nearly all anxious patients are frightened about this particular sort of thing. Explain to him that you do not think that his complaints are imaginary or that they are not real, but that the trouble lies in poor functioning of the organs. You can think of lots of examples from your own personal experiences how this can happen. Perhaps the time you fainted in the first Anatomy class or vomited at your first experience in a surgical theatre to illustrate the way emotions can upset physical function. Reassure him that these emotional upsets will not do damage as far as his body is concerned. Tell him that if he is to be helped it is necessary to get a further understanding of the way that these emotional problems work.

Fifth, in taking the patient's history try to bring out important time relationships between the onset or exacerbation of the patient's symptoms and emotionally important events in his life.

Sixth, encourage the discussion of personal problems — marital difficulties, financial worries, jealousies, angers. Do this by being interested, allowing time — not being condemning or moralistic. Provide information but urge the patient to work out his own solution to problems — you cannot supply them. Avoid direct advice. It is likely to be wrong — you are not Dorothy Dix.

Seventh, do not worry about going over the same material time and again. As long as it disturbs the patient he may get help by repeated discussion — he is desensitized as the asthmatic is by repeated injections of allergen.

Eighth, all this takes time, but it is worth it. The books make psychotherapy seem too easy and too dramatic. Many interviews are crowded into a half page. It

takes many patients a long while to gain enough confidence in you to dare to discuss personal things — it takes them still longer to put their increased understanding to work to change themselves. Be patient.

Ninth, frequently drugs will be necessary — usually barbiturates. Don't be mysterious — tell the patient they will not cure, but will temporarily relieve symptoms. They are only a crutch for him to lean on till his broken personality heals some. He is never well till he can throw the crutch away and face life unsupported.

Tenth, reiterate the mechanism of the patient symptoms — why they occur — the fact that while they are uncomfortable they are not dangerous and encourage the patient to "carry on despite symptoms." This is certainly different from saying his symptoms are imaginary or that there is "nothing wrong" and often will gain much better cooperation from the patient. Urge then activity — not rest — and encourage the patient that with increased understanding and better handling of his emotional problems he can gradually help himself to an easier way of life.

(All this will be time consuming to the physician, but I doubt if in the long run any more time is consumed than by repeated examinations, X-rays, laboratory tests, operations and all the things the neurotic receives today. I am sure the expense to the patient is less and usually the results gratifyingly better.)

I would like to conclude by recognizing the magnitude of this problem and the impossibility of hitting any more than the high spots in a single presentation.

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Interviews by a psychiatrist who spent many years in general practice on a level easily followed.

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# The Doctor As Inventor

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The doctor has contributed much of value to practical science and invention. In the field of invention, particularly, medical ingenuity has made a very impressive showing. Radio electronics, gun-making, paper manufacturing, lens construction, among many others, owe a great deal to the doctor inventor.

Among the earliest pioneers in the field of radio engineering was Mahlon Loomis. Certain information recently unearthed reveals the fact that this physician was the first to use an aerial kite, the first to discover the phenomenon of wave length, the first to use a battery excited magnetic wave apparatus, though he was ignorant of the real manner of the generation of the impulse, and the first to discover that the electromagnetic wave was transmitted better on a cloudy day than on a sunny one.

These discoveries have been verified in many records: in newspaper files, and in diaries left by the doctor himself. There remains little doubt that Dr. Loomis is not well known as a pioneer in the science that is occupying everyone's attention today. All credit is rightfully due him for the formulation of the original theory and fundamental practice of radio science.

Dr. Loomis was a man of many talents, but primarily he was the pioneer, the inventor, the improver. His interests were varied. He is credited among other things with the invention of the artificial tooth plate. This relegated all other dental appliances preceeding it to the scrap heap. The monstrous collection of wires and levers which formerly served to annoy the toothless is shown in the Alexandria exhibits of George Washington. Loomis's invention marked a new era in dental science and from it he made his bread and butter.

Loomis was no ordinary dabbler in electricity. What he undertook he carried to the limit. The records show that from 1856 to 1859 he buried wires in the ground, charged them with current from a galvanic battery, and enriched the crops in the family garden at West Springfield, Massachusetts. He invented and patented the alarm thermometer.

The story of the Loomis Aerial Telegraph Company, incorporated by a special act of Congress, is now a matter of history. The Chicago Fire and the Black Friday Panic of Grant's administration wiped out Loomis' backers and he died broken hearted, unknown, bereft of friends and family.

The United States Patent Office files show the evidence of Loomis's invention, and a widely scattered notice in the press gives mute testimony to the furore stirred up by the Loomis project. One undiscovered fact brought to light shows that Dr. Loomis tried to sell his

apparatus and story to the New York World. In the manuscript division of the Congressional Library at Washington is a collection of the private papers and correspondence of this inventive doctor. Among them is a copy of a letter sent to the New York World in 1886, the year Loomis died. The letter, which is of great interest, follows:

Terra Alta, Preston Co. W. Va.  
Feb. 16, 1886

The World:

The interest awakened by telegraphing through the air induces me to make a statement, ask a question and lay before you a proposition.

My statement is this: In 1872 I obtained letters patent from the United States Patent Office for Improvements in Telegraphy "without wires." This is what is referred to in the editorial notice in the Washington Star.

About a year afterward Congress granted me an Act of Incorporation. I afterward petitioned that body for an appropriation to enable me to carry out this plan to telegraph across the ocean without a cable. This was not granted. My individual means were not sufficient to accomplish this object, and after trying a while unsuccessfully to induce others to aid me in it, I was compelled to give it up and devote myself to my profession.

But I made sufficient experiments in a private way to demonstrate fully the practicability of the theory, and now have the original gilded balloon in my possession.

At this time I telegraphed successfully about twenty miles from one point to another in the Blue Ridge Mountains in Virginia. This, and all subsequent experiments and information, fortify my belief to an almost positive knowledge that I can easily telegraph across the Pacific from near San Francisco to Tokio without wire or cable. This is my statement.

Now, I ask my question: How much will you pay me to furnish a fully minute and scientific description of telegraphing, together with a set of seven water color drawings (eight by eleven inches) illustrative of my plan?

I will remark that I have never furnished or offered to furnish this for publication before.

Now I will lay before you my proposition. Instead of publishing this account first, if the WORLD would like to practically own the franchise and patent, I will for a consideration and a retention of one fourth interest, place it all in your possession with the understanding that measures must be taken to put this method of telegraphing to practical use.

Respectfully,  
Mahlon Loomis

This letter indicates several important things. It shows that Dr. Loomis discovered the oscillatory current and the application of it to short distance trans-

mission. It indicates the existence of a gilded balloon as part of the transmitting and receiving equipment used by Loomis. It shows that there was a new note in which the name of Loomis or aerial telegraphing figured. It notes the existence of seven water color drawings of the Loomis telegraphing plan, which since then has been lost. The letter to the *WORLD* was not productive of results. A few months later his health began to fail, and at the age of sixty he died without realizing his great ambition to prove to the world that he could send messages without wires. There is no doubt that this doctor was the real pioneer in radio. He preceded by many years men like Hertz, Marconi, Tesla, Maxwell, Rhigi, Branly and others, but his work did not receive the recognition it deserved.

Dr. Loomis was perhaps the least appreciated of the American doctor-inventors and the one who fared the worst. In the field of invention other American physicians have made very important contributions. In the winter of 1844 Dr. John Locke, professor of chemistry at the Medical College of Ohio, lectured before its president and officers on magnetic clocks. Dr. Locke showed how the beats of a clock might be repeated and how another clock at a telegraphic distance might be made to move without pendulum or weights. In 1849 the government called Dr. Locke to the Naval Observatory at Washington where he constructed the first electro-chronograph. In view of the fact that electric clocks are now in wide use throughout the world, there is no doubt that Dr. Locke made the greatest contribution to chronography in modern times.

At about the same time another physician was improving on an invention which was to play a very important role in every civilized city throughout the world. Around 1848, Dr. William F. Channing applied the principle of electric telegraphy to the fire alarm and in 1851 placed before the city of Boston a detailed plan for a telegraphic system of transmitting fire alarms. Dr. Channing worked out a plan for a complete system of fire boxes, bells, receiving electrical apparatus, etc. Ten thousand dollars were finally appropriated by the municipal government in order to put this plan into operation. The doctor compared the telegraphic system to the human brain and nervous system, and drew a strong analogy "between the function of the motor nerves and the apparatus of the animal system."

Strange as it may seem, the physician has played a rather sinister role in inventions for the extermination of human life. From the moralistic point of view this is rather unusual when one recalls the Hippocratic oath which calls upon physicians to preserve and prolong human life rather than to devise means of destroying it.

The modern machine gun had its origin in the inventions of Dr. Richard Gordon Gatling, who was born in 1818 in North Carolina. Dr. Gatling neglected his medical practice to devote his time to invention. His earlier inventions were a steam plough and a machine for sowing seeds, but these apparently have been for-

gotten. It is for his invention of the Gatling gun which was first used during the Civil War that Dr. Gatling is known to history. The Gatling gun was the first of the modern engines of wholesale destruction. Appropriately enough, Dr. Gatling's name is used in everyday parlance by underworld characters. The word *gat* as used for gun is taken from the first syllable of Dr. Gatling's name.

Another physician who invented a machine to destroy human life and whose name has become part of the language was Dr. Joseph Ignace Guillotin who lived from 1763 to 1815. Dr. Guillotin's name would have long been forgotten had he been content merely with practicing medicine. He received his medical education at Rheims and at Paris where he practiced for a few years. But it was in politics that he was really interested, and in 1789 was elected to the Constitutional Assembly. In that very same year he brought forth a proposition that all capital punishment should be carried out by decapitation with a specially designed machine. He wanted death to be swift and painless. Two years later a law was passed that everyone condemned to death in France was to be beheaded. Dr. Guillotin's invention was the machine with which the decapitation was to be accomplished. It was first called the *louisette*, but in a few years came to be known as the guillotine.

Dr. Guillotin's machine soon became famous and a poem was composed which was sung after a popular minuet melody. It ran as follows:

"Guillotin,  
Physician,  
Politician,  
Imagines, one fine morning,

That hanging is inhumane  
And hardly patriotic;  
Immediately  
He devises  
A mode of punishment  
Which, without cord or stake,  
Suppresses the office  
Of publican hangman.

In vain it is published  
That it is pure jealousy  
Of a disciple  
Of Hippocrates  
Of the Tennis Court,  
Who flatters himself  
That he can murder with impunity  
An exclusively.

The patriotic  
Guillotin  
Who is ready  
Consults men of his kind.

And his hand  
Makes of a sudden  
The machine  
Which will simply kill us,  
And which shall be named  
Guillotin."



After the adjournment of the Assembly in 1791 Guillotin's political career came to an end, and he returned to the practice of medicine. When Napoleon came into power, he gathered the surviving members of the old medical faculty and re-organized them into a scientific society, The Academy of Medicine. Dr. Guillotin was a pioneer in introducing Jenner's discovery into France. In spite of the fact that for many years a rumor had it that Dr. Guillotin died by guillotining, actually he died of anthrax on May 26, 1814.

In the United States the electric chair was invented by a New York physician whose aims were similar to those of Dr. Guillotin's. He wanted death to be rapid and free from pain, although he himself was opposed to capital punishment. Even today medical men are endeavoring to find less painful methods of executing criminals. Poison gas chambers have come into use in several western states, the invention of medical men who are seeking methods of execution that are swift and painless.

One of the most versatile of the doctor-inventors was the Englishman, Neil Arnott, born in 1788 at Arbroath. He received his medical education at Aberdeen and London, and after graduation he became the surgeon to the East India Company. After making two voyages to China, he settled down to practice medicine in 1811. In 1813 he obtained the diploma of the College of Surgeons and one year later his doctor's degree from Aberdeen. In 1855 he gave up medical practice to devote all his time to invention. From then on his contributions to science and invention were of the highest order.

Among the first of his inventions was the Arnott Stove, which won for him the Rumford medal of the Royal Society. He also invented the Arnott Ventilator, the first of its kind. Later he invented the water bed so much used in hospitals throughout the world today to eliminate bed sores and other irritations. Dr. Arnott never patented his inventions. He carried on his medical idealism to his new work, and that is why he never became wealthy as he certainly deserved to. His rewards were the satisfaction and knowledge that he was doing a very useful work and the medals and honors which came to him because of his inventions. Among the most prized of his honors were the gold medal of the Paris Exhibition of 1855 and the Cross of the Legion of Honor conferred upon him by Napoleon III. One of his last inventions was a chair to prevent seasickness. He was also one of the founders of the University of London in 1836.

The inventor of modern shorthand was a physician, Dr. Timothy Bright, who was born in 1551. He was graduated in medicine at Cambridge in 1574. His life had been barely spared two years previously while in Paris during the massacre of St. Bartholomew's Day by taking refuge in the home of a friend. He was appointed physician to St. Bartholomew's Hospital which post he held with signal honors till 1590 when he resigned. He was the first to evolve a system of short-

hand writing. His system had an alphabetic basis, using the initial of each word. He was also the author of "A Treatise of Melancholie," published in 1586, which is supposed to have suggested Burton's "Anatomy of Melancholy."

Two physician-inventors contributed much to modern headgear. They both lived in England and were contemporaries. James Sarton born in 1806 was a successful skin specialist in London. His inventive genius manifested itself during his youth when he was apprenticed in a hat factory, where he invented the commercial process of stiffening felt hats and paving the way for the modern derby. Dr. George Borlase Childs, born ten years after Dr. Sarton, was a native of Cornwall, who upon graduating came to London where for forty years he was surgeon to the City of London police. In 1861 he invented the modern police helmet which was popular in America several decades ago and which is still worn by the London police.

Medical men have been prolific contributors to the science of crime detection. Among the greatest of these was Henry Faulds, born in 1844, who is credited with inventing the fingerprinting method of identification. For several years following his graduation he practiced medicine, but his interest was soon focused on finding a way to identify persons. In 1880 he published his fingerprint method of identification. He devised a schedule containing outlines of the ten fingers, and these were to be filled in with the impressions obtained from them. These schedules were supplied to coroners, magistrates, surgeons, chiefs of police, etc. Dr. Faulds made the first practical contributions to the modern science of crime detection.

In the science of chemistry one of the greatest of modern pioneers was a physician. Frederick Wohler was graduated in medicine but he never entered practice. His interests lie wholly in chemistry to which science he devoted himself with great distinction. In 1836 he was appointed to the chair of chemistry at the University of Gottingen. He had a remarkable career before his appointment. In 1827 he discovered the metal, aluminum. The same metal is playing a very important role in industry today. It is used in all types of air craft, and in the industries is gradually replacing the older and heavier metals.

One year after his isolation of aluminum, Dr. Wohler discovered beryllium which has shown great commercial possibilities. He was the founder of modern synthetic chemistry when he produced urea synthetically for the first time. Synthetic chemistry is constantly evolving new drugs and other materials which cannot be obtained from nature and which in some respects are much superior to natural products.

The inventor of the modern telescopic lens was another physician, John Bevens, born in 1639. Dr. Bevens practiced medicine in London, but he was also very much interested in astronomy. He was not satisfied with the type of telescopic lens in use at that time and

after a great deal of experimentation he found that by incorporating borax into the glass he obtained a lens whose refractive powers were greatly increased. Dr. Bevan's discovery paved the way for the modern super-telescope which has made man's eye see farther than it has ever seen before.

George Armstrong Peters who lived from 1859 to 1907 was a native of Ontario, Canada, who was educated in the University of Toronto from which he obtained his degree in medicine. Several years later he became Professor of Surgery at his alma mater. Besides surgery he was very much interested in horses and rifles. He is now known to fame as the man who perfected the electric registering target which bears his name.

Another versatile English doctor-inventor was Charles Brooks, who was born in 1804. After graduation he became a member of the surgical staff of the Metropolitan Free Hospital and Westminster Hospital. A little later he became president of the Metropolitan and Royal Microscopical Societies. He was very much interested in mathematics and physics on which he lectured and wrote a great deal. He was also the inventor of the self-reading barometer and psychometer. He also invented the magneto-meter which registered variations by photography. All his inventions were accepted by the observatories at Greenwich, Paris and other astronomical centers. He also greatly improved the modern microscope.

It is now claimed by some authorities that Charles Morrison, born in 1753, was the inventor of the electric telegraph. He was a Scottish surgeon who practiced at Renfrew, but his interests lie mainly in the practical utilization of electricity. It was Dr. Morrison who first suggested that messages could be transmitted along wires from one locality to another at a distance. Dr. Morrison's pioneering efforts in telegraphy are remarkable in that the only form of electricity known in his day was that produced by friction. His telegraphic system was operated in this manner. Wires were set up by extending them from one station to another. One wire for each letter of the alphabet was used. A ball was suspended from each wire. At one sixth of an inch below each ball was placed a letter of the alphabet, marked on a sheet of paper which was light enough to rise when the ball was electrified. The wire connected with a letter which was to be transmitted was brought into contact with the conductor of the electric machine (which in those days consisted of glass plates), and the persons who was to receive the message noted the letters as they rose one after another. This was the crudest sort of electric telegraphy, but it was the beginning.

The modern weight-lifting crane and the rotary machine for sweeping city streets were conceived by a physician, Sir Edwin Saunders (1814-1910). His machines were mechanical in operation, and when electricity was applied to working them they became popu-

lar throughout the world. The weight-lifting crane is one of the really great inventions of modern times. The rotary machine for sweeping streets was the first practical contribution to modern sanitation. As the machine swept it left an even line of refuse at the side of the street which it then swept up.

One of the greatest improvements in fabrics is the process of water-proofing them. James Syme, born in 1799, who in his day had the reputation of being the most daring surgeon in Scotland, invented this process. He had set out to discover a cheap solvent for rubber. After a great deal of experimentation he discovered naphtha which he obtained from distilling coal tar in a retort. He spread the dissolved material over the fabric which when dried was rendered absolutely waterproof. He waterproofed "a silk cloak, which afforded complete protection from the heaviest rains, and could be employed as a pitcher, by turning up its skirt, was an object of wonder by all who saw it."

A physician whose inventions have contributed much to material progress was Sir Golsworthy Gurney (1793-1875), born in Cornwall, and who after graduating settled down to a surgical practice at Wadesbridge. Among the greatest of his inventions was the oxyhydrogen blow-pipe which is used in various industries throughout the world. The blow-pipe had made possible the utilization of steel for building purposes; it is therefore responsible for steel ocean-going liners, for safer railroad trains and for skyscrapers.

Dr. Gurney was the first to make use of his own invention. He used the blowpipe to fuse lime and magnesia which now forms the basis of the powerful lime-light, so useful in photography and illumination. He also invented the steam jet, used in connection with locomotives, steam boats and blast furnaces as well as for the extinction of fire in burning mines and for cleaning and ventilating sewers.

It was also Sir Golsworthy Gurney who pointed out that a magnetic needle moves when the poles of a galvanic battery over it is brought into contact with another. In his lighter moments he invented an instrument of musical glasses to be played like a piano, but this instrument's popularity lasted but for a short time.

Edward Maynard was born in Madison, New York, in 1813. He was both a physician and dentist. His greatest invention was the breech-loading rifle, which he patented in 1851. Next to Dr. Gatling, Dr. Maynard was the doctor-inventor who did most for improving the firearm. Maynard's first important contribution to invention was in 1845, when he perfected a system of priming, which practically superseded the percussion cap. In 1860, he patented a method of converting muzzle-loaders into breach-loaders. Almost all of his inventions had to do with firearms.

Another remarkable doctor-dentist inventor was Amos Westcott, born in 1815. He invented and patented a rotary churn which made butter in one minute, a door



spring, an escutcheon to prevent keys being turned from the outside and a doorbolt.

Dr. William Gibson Arlington Bonwill was born in 1833 and in his spare time he turned to invention. It was he who invented the safety pin. He was interested in the simpler things and his inventions testify to this. He also invented the shoe-fastener as well as the burner for kerosene lamps, which was very popular in its day.

All improvements in the making of present day paper money were made by an English eye specialist, Dr. Alfred Smee (1818-1877). He was as much interested in chemistry and electrochemistry as he was in diseases of the eye. His first important invention was

durable ink which he perfected in 1842. Twelve years later he developed the present day system of printing paper money. When he was a student Dr. Smee invented the method of making gum and chalk splints, which was later replaced by plaster of paris. He was also the first to invent a method of obtaining perfect reverses in plaster by rendering the plaster non-absorbent. This method is of great value in crime detection at the present time.

The doctor as inventor has made some of the most noteworthy contributions to the art of making life more comfortable. Wherever he has penetrated he has left the marks of his inventive genius.

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push-button dispensers  
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Each cc. contains:  
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**Precautions:** Contraindicated in herpes  
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in herpes simplex



### Aristocort<sup>®</sup> Cream 0.1%

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simple, sparing application — prompt, symptomatic relief —

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## HIGHLY ACTIVE WHEN DIRECTLY APPLIED TO SKIN LESIONS

A recent study has demonstrated the efficacy of triamcinolone acetonide 0.1 per cent in 222 patients with a variety of allergic and inflammatory dermatoses. The conditions included in the study were contact dermatitis, seborrheic dermatitis, neurodermatitis, atopic dermatitis, and pruritus vulvae.

The anti-inflammatory and antipruritic efficacy of triamcinolone acetonide was shown by the prompt control of itching and resolution of affected areas. Cahn, M. M., and Levy, E. J.: A Comparison of Topical Corticosteroids: Triamcinolone Acetonide, Prednisolone, Fluorometholone, and Hydrocortisone.

*Antibiotic Med. & Clin. Ther.* 6:734 [Dec.] 1959.

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Ointment 0.1% Triamcinolone Acetonide

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## Neo-Aristocort<sup>®</sup>

Eye-Ear Ointment 0.1% Neomycin—Triamcinolone Acetonide

Tubes of 1/8 oz.

For inflammatory,  
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Each gram contains:  
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**Precautions:** Contraindicated in herpes  
simplex. Sensitivity reactions  
to neomycin occasionally occur.



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# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Increase Social Security**

The House Ways and Means Committee on March 27 approved a scaled-down version of President Kennedy's plan for higher social security benefits. . . . The vote was 22 to 2. . . . The plan would boost cash benefits this summer for 3,675,000 persons under social security. . . . It also would permit male workers to retire at age 62 and draw permanently reduced cash benefits. . . . The social security tax, now 6% (3% employee, 3% employer) on a tax base of \$4,800 would be raised to 6¼% (3½% employee, 3½% employer). . . . Kennedy originally had proposed tax increases of double these amounts, effective January 1, 1963. . . . The committee decided to advance the date of the increase to January 1, 1962. . . . The increased benefits include:

- a) a boost of 10% in cash benefits for widows of deceased workers;
- b) an increase from \$33 to \$40 in the minimum monthly benefit.

During the first full year, the increased benefits would cost close to \$850 million. . . . The Kennedy plan would have cost a little over \$1 billion annually in the early years. . . . It is this bill on which it is rumored the Administration may tag on the compulsory social security aged medical care program. (Legislative Roundup)

### **Kerr-Mills Implementation**

Here is the latest box score on the implementation of Medical Assistance for the Aged programs under the Kerr-Mills bill:

### *Programs In Effect*

Kentucky, Michigan, Puerto Rico, Washington, Massachusetts, Oklahoma, Virgin Islands, West Virginia.

### *Programs Not In Effect*

Legislation not needed, in State opinion:

Plan submitted to HEW for approval: Maryland, New Mexico

Plan being drafted: Mississippi, Virginia

Legislation needed:

Bill passed both Houses: Georgia, Indiana (Signed), Idaho (Signed), North Dakota, Tennessee (Signed).

Bill introduced: Arkansas, Iowa, New York, California, Maine, Ohio, Connecticut, Nebraska, Oregon, Illinois, New Jersey, South Dakota (tabled), Texas (cons. amend.), Utah.

Bill will be introduced in 8 more states.

(AMA Council On Legislative Activities)

### **Special Aging Committee**

Senate's Special Committee on Aging, its size more than doubled (from 9 to 21) because of the lawmakers' intensified interest in gerontology, got its new members last week. They are, *Democrats*, Senators Wayne Morse (Oreg.), Alan Bible (Nev.), Joseph S. Clark, Jr. (Pa.), Frank Church (Ida.), Jennings Randolph (W. Va.), EDMUND S. MUSKIE (ME.), Edward V. Long (Mo.) and Benjamin A. Smith II (Mass.), and, *Republicans*,



Frank Carlson (Kas.), Wallace F. Bennett (Utah), Prescott Bush (Conn.) and Jacob Javits (NY).

(WRMS Apr. 3, 1961)

### **Eldercare A 1962 Issue**

Only realistic conclusion is that decisive action on medical eldercare under social security will go over until next year. It isn't only that precedent (plus political expediency) dictates that social security amendments shall be voted in an election year; more important, there can be no action until House Ways and Means Committee moves and its chairman, Rep. Wilbur J. Mills (D., Ark.), is holding the reins in tight check to prevent any upset of home state plans for 1962 which link Rep. Dale Alford with the Governorship and Gov. Orval Faubus with Senate seat now held by J. W. Fulbright. Also, preservation of Mills' Congressional seat when Arkansas is redistricted.

(WRMS Mar. 20, 1961)

### **Dr.-Draft Of 250 Asked**

SecDefense will be asked to approve Selective Service callup of 250 young physicians for active duty in U.S. Air Force. Army and Navy, whose numerical requirements were not so heavy as those of USAF, expect to fill their quotas by voluntary means. Virtually all of those to be drawn into Air Force, either by volunteering under pressure or by actual conscription, will be MD's who complete internships this summer.

(WRMS Mar. 20, 1961)

### **Social Security Petition**

Chemung County Medical Society, in conservative upstate New York, informed Congress it resents continuing opposition of AMA House of Delegates to social security coverage of physicians despite "overwhelming evidence that a majority of the medical profession wants it." Congress is reluctant to extend coverage to MD's as long as AMA is resistant, so the task at hand is to get House of Delegates to act in accordance with views of the majority of the profession, as indicated by polls, says Chemung.

(WRMS Mar. 20, 1961)

### **Preventive Steps Indicated By Smoking-Lung Cancer Link**

There is sufficient evidence of a causal relationship between cigarette smoking and lung cancer to indicate preventive measures. Discussing smoking as a causative factor in lung cancer in the (March 18) *Journal of the American Medical Association*, Drs. Ernest L. Wynder and Emerson Day, Sloan-Kettering Institute for Cancer Research, New York City, said:

"Obviously, if a statistical and epidemiological relationship has been proved, then the removal or modification of the factor (cigarette smoking) is indicated."

The authors cited 30 studies supplying statistical evidence that "the more a person smokes, particularly cigarettes, the greater is his risk of developing cancer of the lung."

The epidemiological pattern of lung cancer is consistent with the statistical data, they said, and elaborated as follows:

"The increase of cancer of the lung parallels the rise in cigarette consumption. The rates of lung cancer in most countries and the sale of cigarettes 30 years ago are consistent. The present sex ratio of lung cancer is consistent with the long-term smoking habits of the two sexes. Much of the difference in urban-rural frequency of lung cancer can be accounted for by differences in smoking habits."

Furthermore, they said, a reduction in lung cancer risk has been shown among those who have given up smoking.

The authors took issue with the contention that the relationship between smoking and lung cancer could be attributed to some constitutional factor that makes one smoke cigarettes and be susceptible to lung cancer.

"The magnitude of the relationship of smoking and lung cancer would call for a causative factor of great effect," they said. "This magnitude of the observed relationship of smoking to lung cancer is a point frequently overlooked by critics of this relationship, who propose a factor which could, at best, account for a two- or three-fold difference. No factor or group of factors has been presented which could account for a 10- to 60-fold increase in risk of smokers over nonsmokers to develop lung cancer.

"If one wishes to consider a constitutional factor as the alternative of the smoking factor, one has to consider that the factor, be it genetic, psychological, or whatever, has a similar magnitude, has changed during the last 30 years, differs from country to country, is sex linked, is more common in cities, increases with an increase in smoking, and is absent among such groups as the Seventh Day Adventists, who, because of their religion, are essentially nonsmokers and have exceedingly low rates of lung cancer."

Drs. Wynder and Day also said they did not believe animal evidence was necessary to prove the causation of lung cancer, but added:

"The available animal evidence, though it cannot prove that tobacco smoke condensate causes cancer in man, certainly gives a rational explanation for the established statistical and epidemiological human data."

### **Nurses Take Capitol Hill**

Under ANA sponsorship, some 125 nurses will meet in Washington in a conference on legislation. In offices, around banquet tables and on speaking platforms they will seek support of Senators and House members for bills on medical eldercare under social security, expansion of collegiate nursing programs, scholarships and

sundry other benefits. All 50 states will be represented at the meeting, first of its kind to be held in Washington since 1958. (WRMS Mar. 20, 1961)

### Heart And Cancer Leaders Will Advise President

Two dozen Americans who are distinguished as teachers, researchers or administrators have been recruited for an ad hoc advisory group to help the government combat heart disease and cancer. Selection of the group by President Kennedy is in fulfillment of a 1960 Democratic platform pledge. It will assemble in Washington, D. C. April 15 under the chairmanship of Boissieu Jones, Special Assistant to SecHEW A. A. Ribicoff for Health and Medical Affairs. A week later the final report will be presented personally to the President.

Members of the President's Conference on Heart Disease and Cancer: Drs. Harold Diehl, John R. Heller, Peyton Rous, George Wakerlin and Irving Wright, NYC; H. Stanley Bennett, Charles Huggins and H. Burr Steinbach, Chicago; Shields Warren, Robert Wilkins, Paul Dudley White and Sidney Farber, Boston; E. Cowles Andrus, Baltimore; Julius Comroe and Wendell Stanley, San Francisco; Michael DeBakey, Houston; Irvine Page, Cleveland; I. S. Ravdin, Philadelphia; Harold Rusch, Madison, Wis.; Howard Skipper, Birmingham, Ala.; Myron Wegman, Detroit, and J. Walter Wilson, Providence, R. I., latter a Brown Univ. biologist. Serving as members and staffing directors will be Drs. James Watt and Kenneth M. Endicott, directors of National Heart Institute and National Cancer Institute, respectively. (WRMS Mar. 20, 1961)

### Heart Attacks Occur More Often Among Lower-Salaried Men

Heart attacks occur more frequently among lower-salaried male employees than among those in higher brackets, a study of the personnel of a large industrial firm indicated recently.

A three-year study of first heart attacks among E. I. du Pont de Nemours & Company personnel was reported by Sidney Pell, Ph.D. and C. A. D'Alonzo, M.D., Wilmington, Del., in the (Feb. 11) *Journal of the American Medical Association*.

The company population averaged 89,089 persons ranging in age from 17 through 64. There were 75,301 men and 13,788 women. The majority resided in the Middle-Atlantic and Southeastern states.

Male employees were divided into five groups on an economic basis and level of job responsibility to ascertain the relationship between heart attacks and occupation, if any.

The study showed that the incidence of heart attacks was lowest among the highest salary groups, being 2 per 1,000 persons per year. In the second highest salary group, the rate was 2.4 per 1,000 and the rate rose to 3.8 and 4 per 1,000 in the two lower-salaried groups.

The fifth, or "wage roll," group consisted of skilled, semi-skilled, and unskilled production workers who, on the whole, were more physically active at work than those in the other four classifications. The heart attack rate in this group was 2.9 per 1,000 persons per year.

### Four-Year Figures Reveal Vast Scope of Medicare

Between Medicare's inception in December, 1946, and Dec. 31, 1960, the government has paid out \$270 million for medical care of servicemen's dependents by civilian doctors in civilian hospitals, and an additional \$15 million in billings are yet to come. Over 1.1 million patients have been accommodated — 625,000 maternity and 95,000 gynecological cases; 230,000 surgical admissions, and more than 205,000 medical cases. Medicare patients, or their sponsors, have paid almost \$30 million out of their own pockets. Thus, Medicare's cost is borne 90.7 per cent by the Treasury and 9.3 per cent by the patient.

These are a few of the figures presented by Brig. Gen. Floyd L. Wergeland, Medicare's executive director, at a recent meeting of the advisory committee. Some others:

Hospitals received \$133 million, physicians \$130 million and the remainder, about 2.2 per cent, went for administrative costs. Air Force dependents accounted for 39.3 per cent; Navy, 32.3; Army, 26.2, and Public Health Service dependents, 2.2 per cent.

Between March and September, 1960, dependent load dropped from 3,611,200 to 3,604,000, first time this figure has gone down since program began. Interesting sidelight is that the percentage of military families without minor children is substantially less than it is among civilian families in same age groups.

"The Medicare program today is, by comparison with its early history, relatively stable," the report concludes. "We do not anticipate there will be any major changes in it, and hope and expect that this stability will make estimates of future costs less complicated."

(WRMS Apr. 3, 1961)

### Hill-Burton Projects Near \$5 Billion Mark

Now in its 15th year, the Hill-Burton program of hospital expansion and improvement has 5,428 projects on its rolls, representing total outlay of \$4,723,633,000. Of this amount, Federal share is \$1,464,987,000. Nearly 70 per cent of the projects are completed and in operation. As of Jan. 31, the program showed 207,988 hospital beds and 967 public health centers, completed or in varying stages of development, all under Part C.

Under the newer Part G, the cumulative record showed 14,792 beds in nursing homes, 6,451 chronic hospital beds; 165 rehabilitation facilities, and 369 diagnostic or treatment centers. States taking the lead in this phase of Hill-Burton are Texas, Mississippi, New York, Pennsylvania and Florida. (WRMS Apr. 3, 1961)





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GASTROINTESTINAL DISORDERS

**Pro-Banthine®**  
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One characteristic of Pro-Banthine which has won it general medical acceptance is its versatility. Pro-Banthine has proved highly useful in the management of gastrointestinal disorders varying widely in both symptoms and severity.

In peptic ulcer and in other disorders characterized by hyperacidity, hypermotility or spasm of the enteric tract, Pro-Banthine controls symptoms with a consistency attested in more than 375 published reports.

This therapeutic proficiency results not merely from the high level of pharmacodynamic activity of Pro-Banthine but also from a favorable balance of its actions on both autonomic ganglia and parasympathetic effector organs. The total effect of this activity permits doubling or tripling the usual dosage to relieve severe or intractable conditions without unduly extending or aggravating secondary actions.

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Pro-Banthine, brand of propantheline bromide, is supplied in tablets of 15 mg. for oral administration in conditions such as peptic ulcer, gastritis, duodenitis, pylorospasm, biliary dyskinesia and spastic colon, and in ampuls of 30 mg. for intramuscular or intravenous administration in conditions such as ureteral spasm and pancreatitis in which prompt and vigorous effects are required or when nausea and vomiting preclude oral administration.

*Usual adult dosage:* One tablet four times daily. Up to four tablets may be administered four times daily for severe manifestations.

*When emotional factors prevail —*

**PRO-BANTHINE® with DARTAL®**

Brand of propantheline bromide with thiopropazate dihydrochloride  
(Not more than four tablets daily.)

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1. Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1958, p. 843.

**G. D. SEARLE & CO., CHICAGO 80, ILLINOIS.** *Research in the Service of Medicine*



DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

Department of Health and Welfare

Survey Of Venereal Disease In Central Maine

ALTA ASHLEY, M.D., M.P.H.\*

For the past three years there has been reported throughout the country an increased number of venereal disease, particularly among teenagers and young adults. In the past two years an increase has also been noted in the number of positive laboratory reports sent to the District Health Office in Augusta as well as in the number of contact referrals received from military installations both within and outside the state. This District Office covers the five counties of Kennebec, Knox, Lincoln, Sagadahoc, and Waldo, as well as Brunswick, Harpswell, Smithfield and Fairfield, comprising a total population of roughly 200,000 or approximately one-fifth the total population of the state.

In order to see whether or not the above observations indicated a real increase in incidence, in contrast to the fairly stable number of reported cases, a questionnaire was sent to all physicians practicing in the district or in bordering towns. Should a real increase be present measures then could be instituted to control the spread of these diseases which now respond so readily to prompt and adequate treatment. Names of 207 physicians were obtained from the yellow pages of the telephone book, the roster of the Maine Medical Association, and from Bureau of Health files. No attempt was made to exclude names of specialists, since it was felt that venereal disease, particularly syphilis, might first be recognized by a pathologist, pediatrician, or neurologist as readily as by a general practitioner, internist, or surgeon.

Replies were received from 140 physicians. Tabulation of the results is as follows:

Total replies	140
% replies	68
Number of cases, gonorrhea*	289
Number of cases, syphilis*	36
Number of cases, other venereal disease	1
Total cases*	326
This represents	
Increased incidence	18 13%
Decreased incidence	19 14%
No significant change	56 40%
No answer	43 30%
Question or uncertain	4 3%

\*In counting cases the lower number of an estimate was taken and all cases of syphilis designated as "old case," "chronic case," "retreated case," and the like were not included.

The number of cases reported to the Bureau of Health in 1959 and 1960 are: gonorrhea 121 and 91, syphilis 26 and 20, respectively.<sup>1</sup> The numbers admittedly seen by these 140 physicians comprising approximately 14% of all physicians practicing in the state and covering approximately 20% of the total population, is two times larger than the highest official figure. Yet most of the physicians responding to the questionnaire felt there had been no change or were unable to say whether or not a change had taken place in the incidence of these diseases. Moreover, answers to the question "does this in your opinion represent a change in pattern" were too few to tabulate, and "comments" were chiefly concerned with the responders type of practice.

It would appear from the above that the number of cases which should have been reported in 1960 from the entire state would be in the vicinity of 1200 for gonorrhea and 150 for syphilis if District III is typical of the entire state. Certainly, taking into account that some cases noted in the questionnaire represented duplication, the total cases should have been well above the reported 120 and 20.

Despite the inadequacies inherent in this type of data

*Continued on page 140*

SAMPLE QUESTIONNAIRE

How many cases of venereal disease do you think you have seen in the past year (1960)? .....

Gonorrhea .....

Syphilis (un- or inadequately treated) .....

Other .....

Does this in your opinion represent an increase? .....

a decrease? .....

a change of pattern .....

Comments: .....

Signed: ..... (optional)

\*District Health Officer





# ANSWERING QUESTIONS



## Plain Talk About Tomorrow

The imminent Congressional battle over President Kennedy's proposal to provide hospital and nursing care for the aged through Social Security poses an obvious and urgent challenge to the medical profession. To put it as simply as possible, medicine is challenged — *now* — to deliver a solid, realistic program of prepaid medical care for the people of the United States through its own voluntary mechanisms, *or* to have such a program organized and imposed upon us by our national government.

To fancy that if we only ignore this threat it will go away is to delude ourselves and to forfeit what may be our last opportunity to preserve private enterprise in medical practice. And it would be incredibly naive to suppose that organized medicine and its consecutive business allies can decisively turn back the tide that's running today without offering a clearly preferable substitute program.

What have we to offer? Why not Blue Shield? For, despite the fact that many Blue Shield Plans are inadequate in their scope of coverage and unrealistic in the degree of assurance of complete protection that they offer the patient, nevertheless, Blue Shield has already enlisted the voluntary support of more than a quarter of all the people in the U.S.A.

Blue Shield is the only major prepayment program responsible and responsive to the medical profession, the only major program free of commercial control, the only major program that is creditably identified in the popular mind with the private physician.

Even more important is the fact that Blue Shield has found the formula for providing medical services on terms that have proved eminently satisfactory both to the patient and the doctor. It is safe to say that if all Blue Shield Plans were offering as good a program as the best of them do today, private medicine could meet the challenge of the immediate future with reasonable confidence in the public decision.

Blue Shield can do as good a job as we doctors will *permit* it to do — and it can do as good a job as we *demand* that it do. But in many areas of this land, we physicians must lift the heavy hand of suspicion and restraint from our Blue Shield Plans, and offer these Plans of ours a bold and helping hand of confidence and leadership. There may be other ways of saving free medicine — but Blue Shield lies close at hand — and ready. When do we begin to move?

# Necrologies

ARCH H. MORRELL, M.D.

1897 - 1961

Arch H. Morrell, M.D., 63, of Augusta, Maine died at the Augusta General Hospital on February 4, 1961.

Dr. Morrell was born in Gardiner, Maine on February 28, 1897, the son of Hiram Kelley and Jennie Haskell Morrell.



Dr. Morrell attended Gardiner schools, Bowdoin College, Yale Medical School for one year, and received his medical degree from the Boston University School of Medicine in 1926. He interned at the Maine General Hospital, followed by a year as resident in cancer research at the Collis P. Huntington Memorial Hospital in Boston and a year in the laboratory at New York

Orthopedic Hospital. In 1929, he returned to the Maine General Hospital and worked under the direction of Dr. Mortimer Warren for two and a half years.

In December 1932, Dr. Morrell joined the Maine Department of Health as Director of Diagnostic Laboratories and State Pathologist, positions he retained until his resignation in December, 1960 because of ill health. During these years he gave freely of his services to hospitals throughout the area and was active in medico-legal investigations. He was consultant to the Augusta General Hospital, Gardiner General Hospital, Augusta State Hospital, Franklin County Memorial Hospital and Waldo County General Hospital. He was particularly interested in developing laboratory services at the Gardiner Hospital for many years before he was appointed formally as Laboratory Director in 1951.

He was a member of the Kennebec County Medical Society during which time he served as Secretary-Treasurer from 1947 to 1961. Shortly before his death the county society presented him with a gold key of recognition for his inimitable service to the society. He was a member of the Maine Medical Association, American Medical Association, American Society of Pathologists, Maine Society of Pathologists, American Public Health Association, Massachusetts Public Health Association and the Maine Medico-Legal Society. He was also a member of Herman Lodge, AF and AM, Gardiner, Alpha Council of Hallowell, Cushnoc Royal Arch Chapter, Trinity Commandery, Kora Temple Shrine, a 32nd degree Mason, a member of the Augusta Rotary Club and Smith-Wiley Post, American Legion, Gardiner.

Surviving are his widow, the former Margaret Estelle Moulton; a son, Linwood A. Morrell of New York City; a daughter, Mrs. Verne Williams of Connecticut and four grandchildren.

GEORGE E. YOUNG, M.D.

1888 - 1960



George E. Young, M.D. of Skowhegan, Maine died at his Lake Wesserunsett cottage on August 7, 1960, following a brief illness.

Dr. Young was born in Skowhegan, Maine on November 15, 1888, the son of Charles E. and Adelaid Burns Young. He attended Skowhegan schools, the University of Maine and received his medical degree at the University of Vermont in 1915. He interned at the Mary Fletcher Hospital in Burlington, Vermont and was a resident at the New York Lying-In Hospital and Mayo Clinic.

Dr. Young opened the Kennebec Valley Hospital in 1919 in Skowhegan which he owned and operated for 20 years. He was surgeon-in-chief of this hospital which became the Redington Memorial Hospital in 1939. Chief Surgeon at the Central Maine Sanitarium in Fairfield for many years, the Dr. George E. Young Medical and Surgical Center building at the sanitarium was dedicated to him in July, 1955. He was also surgeon-in-chief of the state sanitarium. An outstanding authority on lung surgery, general surgery, and X-rays, he was recognized in these fields throughout the United States. He had been listed in Who's Who in America for many years.

He was a member of the Maine Medical Association, Somerset County Medical Association and a member of the American College of Surgeons.

He is survived by his widow, the former Claire Margaret Ewen.



# County Society Notes

## HANCOCK

March 8, 1961

The March meeting of the Hancock County Medical Society was held at the Hancock House in Ellsworth, Maine.

Dr. Irving L. Selvage, Jr., Radiologist at the Maine Medical Center in Portland, presented a fascinating talk illustrated with slides and movies of the imageamplifier and cineradiography. A brief question and answer period followed Dr. Selvage's presentation.

RUSSELL G. WILLIAMSON, M.D.  
*Secretary*

## YORK

March 8, 1961

Thirty-three members and guests were present at the March meeting of the York County Medical Society which was held at the Notre Dame Hospital in Biddeford, Maine. After a social hour and dinner, the meeting was called to order by Dr. Marcel D. Ouellette, Vice-President.

Dr. Ouellette introduced the speaker of the evening, Dr. John L. Fromer of the Lahey Clinic, who gave a very interesting talk with lantern slides on dermatology and allergy.

Dr. Thomas A. Martin of Portland, councilor for the First District, presented a talk on medical matters.

CHARLES W. KINGHORN, M.D.  
*Secretary*

## CUMBERLAND

March 16, 1961

A meeting of the Cumberland County Medical Society was held at Valle's Steak House in Portland, Maine on March 16, with forty-five members present.

Following a social hour and dinner, the meeting was called to order by Dr. Thomas A. Martin serving as President pro-tem.

The application of Dr. Walter D. Mazzacane by transfer from York County was approved.

An announcement was made by the Secretary regarding the increase in the County Group Accident and Health Insurance limits to \$150.00 a week as well as the offering of a Major Medical Supplement to the policy. Literature will be sent out shortly by Dow & Pinkham, the agency which handles these policies.

A resolution to be presented to the House of Delegates at the April meeting on study of distribution of physicians in the State in relation to reapportionment of the council of the Maine Medical Association was passed.

Dr. William E. Freeman of Yarmouth, spoke concerning a bill which had been introduced in the legislature by Benjamin Crockett of Freeport. This act would allow any practicing physician to install green blinking lights on his automobile to be used while on emergency calls only. A motion was made

## COUNTY SOCIETIES

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Secretary, Donald L. Anderson, M.D., Lewiston

### AROOSTOOK

President, Frederick J. Gregory, M.D., Caribou  
Secretary, Clyde I. Swett, M.D., Island Falls

### CUMBERLAND

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President, Maynard B. Colley, M.D., Wilton  
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President, George W. Bostwick, M.D., Newcastle  
Secretary, Richard I. Clark, M.D., Bath

### OXFORD

Secretary, Albert P. Royal, Jr., M.D., Rumford

### PENOBSCOT

President, Richard C. Wadsworth, M.D., Bangor  
Secretary, Philip B. Thomas, M.D., Bangor

### PISCATAQUIS

President, Odd S. Nielsen, M.D., Dexter  
Secretary, Isaac Nelson, M.D., Greenville

### SOMERSET

President, Paul R. Briggs, M.D., Hartland  
Secretary, Harland G. Turner, M.D., Norridgewock

### WALDO

President, Ward A. Albro, M.D., Belfast  
Secretary-Treasurer, Seth H. Read, M.D., Belfast

### WASHINGTON

President, Rowland B. French, M.D., Eastport  
Secretary, Karl V. Larson, M.D., East Machias

### YORK

President, Kenneth E. Leigh, M.D., York  
Secretary, C. W. Kinghorn, M.D., Kittery

that the county society go on record as favoring passage of this bill and was passed by majority vote of the members.

The remainder of the evening was taken up with a discussion of health insurance. Mr. Richard Nellson, Director of Blue Shield, spoke regarding the new BSA plan and answered many questions from the floor about Blue Shield coverage in general. Dr. Francis A. Winchenbach of Bath, Chairman of the Maine Medical Association's Health Insurance Committee, spoke briefly about the future of pre-payment insurance and Blue Shield in particular. Dr. Philip P. Thompson, Jr. discussed a proposed plan for the aged which was being worked on jointly by the Maine Medical Association, Blue Shield and the State Department of Health and Welfare to extend broad coverage to the aged under the Kerr-Mills Bill.

ALBERT ARANSON, M.D.  
*Secretary*

#### KENNEBEC

March 16, 1961

A meeting of the Kennebec County Medical Association was held at the Jefferson Hotel in Waterville on March 16.

Peter F. Lansing, M.D., from the Veterans Administration Center at Togus, was elected to membership.

A memorial resolution was read for Dr. Arch H. Morrell and also for Dr. Wilson H. McWethy.

Dr. Loring W. Pratt, Vice-president, presided and introduced the speaker, Dr. Warren R. Guild of Boston, an associate in medicine at Harvard Medical School and senior associate at the Peter Bent Brigham Hospital. Dr. Guild presented an interesting discussion of blood pressure and twelve factors which effect it.

A meeting of the Association's Council preceded the regular business and clinical meeting.

EARLE M. DAVIS, M.D.  
*Secretary*

#### New Members

##### KENNEBEC

Peter F. Lansing, M.D., Veterans Administration Center, Togus

#### Deceased

##### PENOBSCOT

Luther S. Mason, M.D., 109 State Street, Bangor, March 20, 1961

## News and Notes

### Two Maine Doctors To Attend Third World Congress Of Psychiatry In June

Two Maine doctors from Pineland Hospital and Training Center have been named to a symposium panel on Mental Retardation for the Third World Congress of Psychiatry at Montreal in June.

Dr. Peter W. Bowman, superintendent of Pineland, and Dr. Hans V. Mautner, of the medical staff, will appear on two panels at the one-week congress.

Dr. Bowman will discuss programming and staffing of mental institutions and Dr. Mautner will present a paper on diagnostic problems.

The World Congress is held this year under the auspices of the Canadian Psychiatric Association and McGill University.

Both doctors will present principle lectures later this year in Vienna, Austria, at the Second International Medical Congress on Mental Retardation.

Dr. Bowman was recently named Vice-president of the Congress.

## Announcements

### Pineland Hospital And Training Center Pownal — Maine Conference Room — Treatment Building

1961

May 4	Autistic Children — Diagnosis and Treatment	11:00 a.m.
May 11	Drug Action and Brain Physiology	11:00 a.m.
May 18	Clinicopathological Conference	10:00 a.m.

All candidates, eligible for the Part II Examinations, who have applied for the first time in 1960, will be required to submit a duplicate list of the hospital admissions as contained in their application.

The deadline date for the receipt of New and Reopened Applications for the 1962 examinations is August 1, 1961. Candidates are urged to submit their applications as soon as possible before that time. For further information write to: Office of the Secretary, Robert L. Faulkner, M.D., 2105 Adelbert Road, Cleveland 6, Ohio.

### American Board Of Obstetrics And Gynecology

The next scheduled examinations (Part II), oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from April 8 through 15, 1961. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I Examinations will be notified of their eligibility for the Part II Examinations as soon as possible.

### A.M.A. And Chest Physicians Plan Joint Session In N.Y.

A full day scientific meeting, sponsored jointly by the American Medical Association and the American College of Chest Physicians, will be one of the outstanding features at the 110th annual A.M.A. convention, New York City, June 25 through 30, 1961. Dr. Coleman B. Rabin, New York, Secretary of the A.M.A. Section on Diseases of the Chest, planned the program for this joint meeting, which will be held on Monday, June 26.



The joint program, which was arranged so as to be of interest to specialists and general practitioners alike, will follow the scientific assembly of the American College of Chest Physicians which is holding its 27th annual meeting in New York, June 22 through 26, 1961, just prior to the A.M.A. session.

The program, first ever sponsored jointly by the two medical organizations, will consist of symposiums, panel discussions, the reading of scientific papers, roundtable luncheon meetings, and fireside conferences.

Subjects to be covered will include new approaches in the treatment of various forms of heart disease; tuberculosis in general hospitals; steroid treatment in lung diseases; modern diagnostic measures in heart disease; pulmonary diseases and the best forms of treatment; asthma; chronic bronchitis and emphysema; heart catheterization; recent advances in the treatment of cardio-pulmonary diseases; modern treatment of angina due to stress or effort, and x-ray findings in heart and chest diseases.

In addition to the formal scientific session, the College will sponsor a new exhibit, entitled "Physiologic and Clinical Testing of Cardiac Function." This outstanding scientific exhibit, approved by the A.M.A. Council on Scientific Assembly, will be shown at New York's Coliseum beginning on Sunday afternoon, June 25.

### American College Of Chest Physicians Postgraduate Courses

The Council on Postgraduate Medical Education of the American College of Chest Physicians will present the following postgraduate courses during 1961:

Cardiopulmonary Problems in Children  
Brown Hotel, Denver, Colorado, July 24-28

Industrial Chest Diseases  
Warwick Hotel, Philadelphia, September 25-29

Clinical Cardiopulmonary Physiology  
Sheraton-Chicago Hotel, Chicago, October 23-27

Recent Advances in the Diagnosis and Treatment of  
Heart and Lung Diseases  
Park Sheraton Hotel, New York City, November 13-17

Recent Advances in Diseases of the Chest  
Statler-Hilton Hotel, Los Angeles, December 4-8

Tuition for each course is \$75 for members of the American College of Chest Physicians and \$100 for non-members. The fee includes attendance at the round table luncheon discussions.

Further information may be obtained by writing the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago, Illinois.

### A.M.A. To Stage Big "World's Fair" Of Medicine In New York In June

The American Medical Association's 110th annual meeting, the "world's fair of medicine," will bring an estimated 50,000 persons, including 25,000 physicians, into New York City, June 25-30.

The five-day convention, biggest of its kind in the world, will attract not only doctors, but also their wives and families as well as residents, interns, exhibitors; in fact, people connected with all the allied fields of medicine. Hence, the convention theme: "Teamwork in Medicine."

The 1961 meeting will mark the eighth time that the A.M.A.

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has met in New York. The last convention there was in 1957 when 23,888 physicians registered.

Technical exhibits, numbering 827 and displaying everything from medical books to diapers, and more than 350 scientific exhibits largely developed, designed, and manned by physicians reporting their research, will take up practically every inch of space on all four floors of New York's big Coliseum.

George B. Larson, director of convention services for the A.M.A., said that "logistics point up the bigness of the June convention."

He said that nine semi-trailer trucks, with unique and complex scientific equipment, and another six semi-trailers carrying such decorator supplies as furniture, booth backgrounds, and carpeting, will leave Chicago for New York on June 15. In addition, exhibitors will bring total freight weighing about 1,500,000 pounds.

Mr. Larson said that in order to accommodate certain scientific sessions four solid-wall rooms, 200 feet long and 60 feet wide, will have to be built within the Coliseum before the convention opens.

The A.M.A. meeting will open formally on Sunday, June 25, with a special preview luncheon and showing in the Coliseum for A.M.A. officers and committee chairmen, members of the Board of Trustees, representatives of the Pharmaceutical Manufacturers' Association, and invited guests.

Registration hours, Monday through Thursday, will be from 8:30 a.m. to 5:30 p.m., and until 12 noon on Friday, the final day. The Coliseum will be open, however, to physicians only on Tuesday, Wednesday, and Thursday morning.

Dr. Leonard W. Larson, 63-year-old pathologist and clinic executive from Bismarck, N. D., will be inaugurated as president of the A.M.A. at 8:30 p.m., Tuesday, in the Waldorf-

Astoria ballroom. Dr. Larson, who will give his inaugural address at that time, succeeds Dr. E. Vincent Askey, Los Angeles surgeon.

Dr. Larson has attended all but one of the A.M.A. conventions since 1926.

#### SCIENTIFIC SESSIONS

More than 2,000 physicians will take part in the A.M.A. scientific program, which is designed to keep doctors abreast of what's new in medicine.

Some 300 physicians will deliver lectures before 20 different section meetings. Each section represents a specialty in medicine. The section meetings, which run simultaneously, will be held not only in the Coliseum, but also in hotels nearby; the Essex House, Barbizon Plaza, the Plaza, Henry Hudson, and the Sheraton-Park.

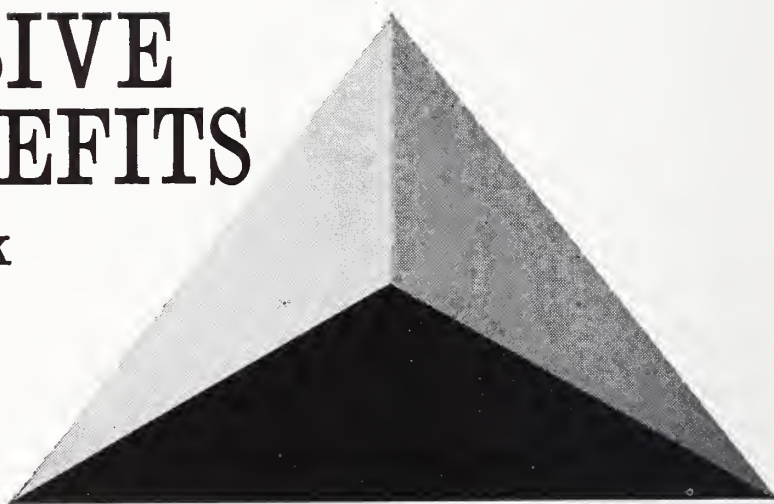
On Tuesday, the A.M.A. will sponsor for the first time a Research Forum. Participants will represent a cross-section of every medical specialty. The Forum program, representing six different sessions with more than 200 participants, also will be held on Wednesday and Thursday. Dr. Edwin H. Ellison, professor of surgery at Marquette University Medical School, Milwaukee, will serve as chairman.

High blood pressure due to kidney diseases will be the topic of a combined meeting of five A.M.A. sections: general practice, urology, general surgery, internal medicine, and pathology and physiology. This program, which was arranged by Drs. Edward H. Ray, Lexington, Ky., and E. I. Baumgartner, Oakland, Md., will be held in the Coliseum on Wednesday morning, and a similar program dealing with diseases of the colon will be held in the afternoon.

The A.M.A. Section on Surgery and the Section on Physical Medicine will hold a combined meeting with the American

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50 mg. • L-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as CaHPO<sub>4</sub>) 35 mg. • Phosphorus (as CaHPO<sub>4</sub>) 27 mg. • Fluorine (as CaF<sub>2</sub>) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K<sub>2</sub>SO<sub>4</sub>) 5 mg. • Manganese (as MnO<sub>2</sub>) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as Na<sub>2</sub>B<sub>4</sub>O<sub>7</sub>·10H<sub>2</sub>O) 0.1 mg. Bottles of 100, 1000.

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Rheumatism Association in the Coliseum on Thursday with an entirely new program format. The program, dealing with rheumatoid arthritis, will include a symposium, a lecture, a motion picture film, and "live" color television, sponsored by Smith, Kline & French Laboratories, Philadelphia. On the same day, the Section on Surgery will sponsor a television program showing the various new chemical treatments for cancer of the bowel.

There also will be conferences on diabetes and nutrition with special exhibits complimenting the lectures.

Visiting physicians will be able to view and study the largest and most unusual collection of fresh tissues ever assembled at a medical meeting. All New York hospitals will contribute to this educational exhibit which was planned by Dr. Milton Helpern, chief medical examiner of New York City, on behalf of the A.M.A. Section on Pathology.

Of particular interest to all physicians will be the expanded physical examination booth on the third floor of the Coliseum. It is there where doctors can obtain a heart examination, chest x-ray, and eye examinations. A step next door will take them to a modern laboratory for urinalysis and blood studies. Physical examinations were given to doctors at the A.M.A. meeting in Miami Beach last year and it was found that approximately 20 per cent of the 1,328 physicians, who took the physicals, had heart abnormalities. This represented twice the average for the general population. Fourteen per cent of 1,008 doctors taking chest x-rays were found to have abnormalities.

Two high school students — winners of the American Medical Association's top awards for the best exhibits in the health field at the National Science Fair-International to be held in Kansas City, Mo., May 10-13 — will be honored guests at the A.M.A. meeting. Their winning exhibits will be on display throughout the week.

#### HOUSE OF DELEGATES

The House of Delegates, the policy-making body of the A.M.A., will meet at the Statler-Hilton, the headquarters hotel, at 10 o'clock on Monday morning.

The first order of business will be to select the recipient of the A.M.A. Distinguished Service Award, which is given annually to the physician who has made an outstanding contribution to medicine. The award will be bestowed at the inaugural ceremony Tuesday evening.

The House, patterned very much like the Congress of the United States, consists of 190 physicians from constituent or state medical societies, plus one delegate from each of the five government services, including the Army and Navy, and one delegate from each of the 20 scientific sections, a total of 215 members.

The House of Delegates actually is the voice of American medicine. Any proposal or resolution may originate in one or more of the 1,900 county medical societies, then carried by duly-elected representatives to state meetings, and from there to the A.M.A. House of Delegates for final action.

#### WOMAN'S AUXILIARY

Approximately 3,000 members of the Woman's Auxiliary will hold their 38th annual convention in New York City simultaneously with the A.M.A. meeting. Headquarters will be at the Hotel Roosevelt.

#### A Reminder

An outstanding program on medicine and the law will be presented at the Statler Hilton Hotel in New York, April 28-29, 1961. See page 107 in the March '61 issue of the Journal for further details.



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DEPARTMENT OF HEALTH AND WELFARE — *Continued from Page 132*

gathering the results of this questionnaire clearly indicate that there exists marked discrepancy between the number of cases of venereal disease treated and the number reported. The significance of this discrepancy is best illustrated by the results of an investigation which followed the report of one case of infectious syphilis by a private practitioner and described in a recent pamphlet published by the American Social Health Association.<sup>2</sup> After three months of intensive investigation 507 persons were found to be involved, 413 were brought to treatment. Of these 271 received prophylactic treatment while 142 were treated for early syphilis. Several homosexual contacts were uncovered and a majority of these were found to be infected.

In another investigation 48% of the cases were teenagers: one 14-year-old girl admitted to 10 contacts of which three were found to be infected. She later gave birth to a syphilitic infant.

Proper investigation of venereal disease outbreaks can be carried out only when cases are reported promptly to the Bureau of Health. It is a time-consuming job and physicians rarely have the time required for such ac-

tivity, nor do they feel responsible for the treatment of persons who do not seek their services. Rather it is the responsibility of official health agencies to ensure treatment for those who are infected or potentially so.

When better means of diagnosing gonorrhea, especially in the female, are available there undoubtedly will be an increase in cases reported, at least initially. It is to be hoped that this increase will shortly be replaced by a decrease, as more and more infected persons who now are unsuspectedly infected are brought to treatment. It is to be hoped also that Maine physicians have been alerted sufficiently to the rise in incidence of venereal disease, particularly of syphilis among teenage children, occurring elsewhere, to be able to prevent such an event happening here.

## REFERENCES

1. Bureau of Health Records.
2. Today's V.D. Control Problem. A Joint Statement. March 1961, New York.  
The Association of State and Territorial Health Officers.  
The American Venereal Disease Association.  
The American Social Health Association.

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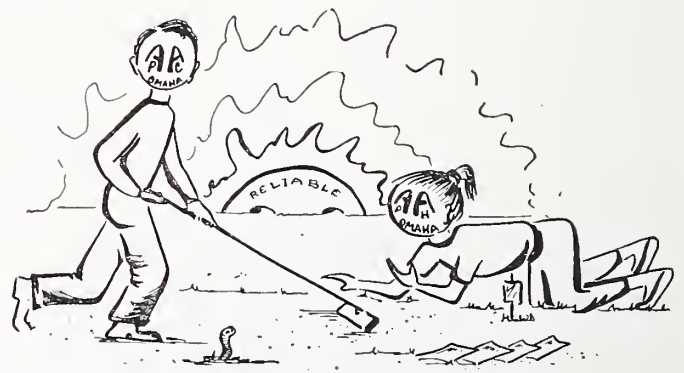
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# The Journal of the Maine Medical Association

Volume Fifty-Two

Brunswick, Maine, May, 1961

No. 5

## A Challenge To Organized Medicine

GEORGE O. CHASE, M.D.

In constructing a preamble for a discussion of this sort, one might be expected to begin by saying:

"In talking to doctors and nurses, the author. . . ." In point of fact, it is proper to commence by stating that in *listening* to doctors and nurses, the author gained the distinct impression that for two groups of persons whose chief concern is to provide optimal care for sick people and to promote the healthy state there is a startling lack, at the organizational level, of mutual respect and effective rapport.

The nurses are constantly calling our attention to the fact that we are imposing increasingly heavy burdens of responsibility on their group, all the while blocking their assumption of a reasonable degree of authority commensurate with this responsibility. They were, for example, dismayed at the apparently unanimous opposition of the Maine Medical Association to the legislation sponsored by the nurses in 1959 calling for uniform nursing practice standards, an all Nurse Board to set standards for schools of nursing and to control nursing practice, and a mandatory licensure law for practitioners of professional nursing.

On the other hand, physicians argue that there may well be usurpation, rather than imposition of responsibilities; that nurses as a group tend in these times actively to create rifts between the two groups. The effect of this is to weaken the traditional and essential dominance of the physician within the parameters of care of the patient.

### CURRENT LIAISON ACTIVITIES

Recently, Dr. Paul S. Hill, Jr., of Saco, and I have represented the Maine Medical Association in delibera-

tions of the multidisciplinary committee, formed over two years ago to study and make recommendations in the areas of financing hospital, nursing home, and nursing school costs. This group had representatives from all major organizations concerned in health care, including the Maine Medical Association, the Maine State Nurses' Association, the Maine League for Nursing, the Maine Hospital Association and the Maine Osteopathic Association. This experience has been most illuminating, and talks with nursing leaders at these meetings prompted us to devise an opinion questionnaire intended to serve as a framework for physicians to express ideas and attitudes about problems in nursing in Maine.

That the intent was realized is evident from the fact that three hundred, or about 40% of the questionnaires were filled in, signed, many of them extensively annotated, and returned. To refresh your memory the following is a resume of the list of questions. It is apparent that the questionnaire was intentionally designed to elicit opinion and not facts. We are all more or less painfully aware of the facts of nurse supply and demand and nursing practice. It is only in marshalling opinion as to causes and effects and appropriate remedial approaches, that we can exercise enlightened leadership in these areas.

1. Is there in your opinion a shortage of nurses in your locality?
2. If so, do you feel that this has resulted in curtailment of services, inadequate care of hospitalized patients, or both?
3. What do you consider the cause of this shortage?
4. What is your opinion of the relationship of current nurse education to nurse supply.

5. Do you think doctors should supervise nurse education?
6. If so, in what manner?
7. Do you think doctors should participate in nurses' education?
8. Could and/or would you personally contribute regularly scheduled hours to classroom instruction?
9. If yes, how many? If no, why?
10. It has been suggested that all faculty members of schools of nursing be holders of baccalaureate degrees or higher. Do you agree?
11. If you do not agree what proportion do you recommend?
12. Do you think all hospitals should have schools of nursing?
13. If no, what size hospital?
14. Do you think that accredited community type hospitals should participate in nursing education such as a rotating affiliation?
15. Do you think that certain costs of nursing education such as teaching salaries, constructing classrooms, dormitories etc. should be subsidized by the State?
16. It has been stated that nurses are getting away from bedside nursing. Do you agree?
17. What is your concept of bedside nursing?

Replies came from all geographical areas of the state, with no special predominance from any particular area.

#### SHORTAGE: YES OR NO?

Two hundred and ten or over two-thirds of the physicians responding considered that a shortage of nurses existed in their area. Since a sizable proportion did not consider that a shortage existed, these "nays" were further analyzed and a geographical breakdown was made with full expectation that some areas would have adequate nurse supply, and others, possibly less attractive or accessible, would not. This expectation did not mature. Generally, within each geographical area the "nays" were in similar proportion as in the entire sample. Thus, for example, fourteen of Portland's physicians, and six Waterville physicians replied that they did not believe a shortage existed in their area.

#### EXTRA HANDS

Although lacking the dignity of a detailed study, the impression was gained that general practitioners doing surgery, general surgeons, internists, surgical specialists, thought a shortage existed, while general practitioners not doing surgery, pediatricians, ophthalmologists, dermatologists, did not. This seems to point up that possibly the most urgent need for nurses in the mind of physicians is in the role of extra hands for doctors to open things, pass things, hold things. This is debatable, since other groups will argue that other nursing needs of the public may be more complex and more acute. For example, bedside care and intelligent independent observation of very ill hospitalized patients between doctor's visits, public health, and after-care instruction of the convalescent patient under the doctor's supervision, are

in this area, To alleviate shortages in the "extra hands" category, however, training programs preparing medical personnel who are unqualified or unwilling to undertake professional nursing as a career, could be structured with the purposes of training operating room technicians, to replace some of the nurses in the operating room.

#### CAUSES OF THE SHORTAGE

It was stated earlier that the lack of rapport exists at the organizational level. This is worth repeating. Within the microcosm composed of the doctor, the nurse, and the patient, there still continues to be cooperation and understanding and the physician's dominant role is manifest. Some indication of this understanding appears to be evident in the material tabulated below. Here an effort has been made to paraphrase answers to question number three, relating to causes of nursing shortage, with the intent of grouping similarly stated responses together.

Inadequate salaries	84
Leave for bigger or better communities	40
Marriage and family responsibilities	36
Working conditions	34
Nurse education standards too high	24
Lack of training center in the area	23
Closing down previously accredited nursing schools	17
Poor recruiting techniques	16
Too high cost of nursing education	5
Inadequate training program for practical nurses	4

The totals exceed 210, since some responses to this question were multiple. One hundred and ninety-four comments were in the first four categories, indicating a belief on the part of physicians that the reasons for the existence of a shortage of available nurses are most often personal ones relating to individual nurses. There is the indication here that some changes might be effected to relieve the shortages. No help is in sight for those with marriage and family raising in mind (it is difficult to advise against this). No foreseeable correction can be applied to the problem of people who inexplicably leave Maine for what is to them more attractive surroundings. On the other hand, matters relating to income, professional rewards, conditions of work, less administrative detail, etc. are definitely subject to change.

By way of contrast, less than half the physicians tended to incriminate nursing organization and nurse education as the cause of the shortage.

This was somewhat surprising because much of the impromptu conversation regarding Maine Nursing, 1961, revolves around nursing education and the activities of professional nursing organizations, generally tending to make nursing education the scapegoat for everything that ails patient care in Maine nowadays. Further discussion of this area will be forthcoming in a subsequent article.



GOVERNMENTAL ASSISTANCE

A majority of physicians responded with a yes to a question relating to government financial assistance in the field of nursing education.

The question: Do you think that certain costs of nursing education such as teaching salaries, constructing classrooms, dormitories etc. should be subsidized by the State?	
The answer:	
Yes	163
No	115
No opinion	7
Not responding	15

At first blush this seemed a bit incongruous in a group nearly unanimously opposed to government intervention in the health field. However, it is apparent to all that the operation of large segments of activities relating to the maintenance of health are properly and necessarily community and not private undertakings. Included would be control of infectious disease, toxicologic and bacterial studies on air and water, epidemiology, community public health projects. Conceivably included would be the education of practitioners of the various arts in the alleviation of suffering and maintenance of health. Certainly this has been recommended by individuals and groups who have studied the problem, and who recognize that the economic rules that apply to private business enterprise do not apply in the areas of health care. This was a prominent recommendation of a group appointed by the Governor of the State of Maine in June of 1951 to study the then current nursing needs in Maine; to wit, recommendation C in the field of nursing education: "Need for the support of nursing education as a public service at the state level."

BEDSIDE NURSING

Two hundred and forty-one of the physicians responding felt that nurses were getting away from bedside nursing. Twenty-nine persons annotated their responses to this question with suggestions as to the causes of this trend and these causes carry implicit solutions to the problem. For example:

- "Too much time spent on charts and records, and not enough on nursing care."
- "Aides could make beds, empty bedpans, change linen."
- "Keep the nurse with the patient, not in books six hours a day."

These comments suggest the following paraphrases with the frequency of their occurrence in the twenty-nine annotations.

Too much administrative detail	22
Too much nonprofessional detail	5
Nursing education influence	2

One physician circumvented the discussion of causes and in admirable executive fashion, prescribed the cure of the trend away from bedside nursing by stating:

- "Recommendations:
1. Elevate the nursing status in the medical hierarchy.
  2. Pay a wage consistent with learning and ability.
  3. Pare administrative duties down to the bone."

The challenge embodied in the question, "What is your concept of bedside nursing?" was accepted vigorously and responded to in rousing fashion by nearly all those returning questionnaires. Quite a wide range of ideas was evident. For example:

- "Pleasant manners and good back care."
- "Ability to care for patients. To evaluate signs of danger. To estimate the progress of confinement, and to know when to call the doctor. A nurse should be able to do a proper back rub, avoid bedsores, spot signs of poor condition post-operatively or in cardiacs. Know when a treatment tray is set up properly. Know operating room and orthopedic set-ups and technique. She should be able to supervise nurses aides, to teach them, and to know what work to delegate to them."

PATIENT-ORIENTED CARE

It is apparent that different doctors expect different things from nurses, and what we expect from nurses depends largely on what sort of things we do for patients, each in his own practice. There were however some observations appearing sufficiently frequently to suggest some commonly held attitudes and opinions. Phrases such as "tender loving care," "willingness to care for the whole patient," "the personal touch is absolutely necessary to the welfare of the patient," indicate an awareness of the essentiality of a vital and effective interpersonal relationship between nurse and patient. The tone of many comments raised the issue that this interpersonal relationship may be suffering from neglect in these days and times. Note this, "compassion and feeling for the patient seems to be a thing of the past." And this: "We are losing this just as we are losing the doctor-patient relationship in our overspecialization."

In all fairness it is to be emphasized that this must be considered to be an indictment of our times. Nurses either collectively or individually do not will or wish it so, and the educational programs, with the clearly stated objective of patient centered teaching, strive continually to strengthen the purpose of young nurses to form a meaningful relationship with all patients for whom they have responsibility.

Recognition is also generally given to the importance of intelligent observation of the patient's progress, relative to which technical skills are subsidiary. For example note these items in the concepts held by physicians of bedside nursing:

"The ability to recognize any change . . . in the patient's condition."

"Professional observation of the patient's illness."

"Critical observation and reporting to the M.D."

"Awareness of the patient's condition at all times."

"Recognition of significant clinical changes in the patient."

#### APOLOGIA

If there is any thesis in the background of this presentation, it is to urge a closer liaison activity between the professional organizations of nursing and medicine in Maine. Certainly, to many of us, this is idle chatter, and to say that patient care may deteriorate if mutual respect and understanding between the hierarchies of the Maine State Nurses' Association and the Maine Medical Association is not attained, is ridiculous in the extreme, an alarmist device designed to create for one or another motive, a tempest in a teacup. This is, nonetheless precisely what this paper is saying, for what is sincerely believed to be compelling reasons.

Having painted a pleasing picture of the harmonious nurse-doctor-patient group, it seems rude and uncalled for to mar it by suggesting that a change for the worse is in prospect. However, a few hard cold facts must be faced. As we move into the future we may expect from our experience in the recent past that more and more illnesses will be institutionalized for care, that institutions will grow larger and larger. A number of experts in human relations observing the hospital scene, contend that as health care is more extensively institutionalized, the authority and influence of the individual doctor over the individual nurse diminishes.

It is a current and probably wise practice, that general duty nurses in institutions, caring as they do for patients of several doctors at one time, are subject to the control and authority of supervisory personnel who are nurses with a responsibility to the institution. It is fair to point up that an individual doctor is properly concerned with the greatest possible good for his patient, and the institution is properly concerned with the greatest possible good for the greatest possible number of patients. On occasion these concerns are in conflict, and the number of conflicts varies directly with the size of the institution.

Let us consider supervisory Nurse A, general duty Nurse B, and Doctor C. Nurse A considers Dr. C. a pompous, megalomaniac boorish ass, with an unfriendly uncooperative attitude about administrative problems. Dr. C. considers Nurse A a meddlesome, busybody, old maid, with no realistic perspective and no real concern

for the problems of patients. Nurse B is inevitably aware of these attitudes and considerable tension is generated depending on Nurse B's inclinations in the nurse-doctor-patient microcosm. Nurse A and Doctor C are prototypes of the professional organizations. Individual Nurse A and Dr. C may be able to iron out their differences, but the impersonal nature which organizations tend to acquire make it difficult on this level, and all the more necessary for as much personal contact as possible between spokesmen for the two societies.

Areas of conflict in recent times have been the Nursing Practice Act of 1959, nursing education policies, about which more will be said subsequently, and the rising professionalism of nurses. There is a certain common denominator in all these problems. Nurses as a group claim that nursing care is increasingly complex. Therefore it requires young women of increasingly greater intelligence and emotional stability. It requires more extensive and more carefully structured educational programs. It requires an elevation of the professional status of nurses to recruit appropriate persons. It requires mandatory licensure to protect the public from incompetent practitioners.

On the other hand doctors as a group claim that nursing care is not increasingly complex. Therefore educational programs pertaining thirty years ago, some with haphazard planning in programming, are nonetheless adequate. Mandatory licensure is not only not necessary to protect the public, it is discriminatory and dislocates an already effective nursing care program. Far from encouraging young women to enter nursing, the rising professionalism discourages less talented young women who nevertheless might make good nurses, and furthermore, creates rifts between doctors and nurses, undermining the essential dominant role of the physician in patient care.

The lines are clearly drawn on many of these issues. It behooves each of us to become informed and examine carefully these points of view before we choose sides. How we choose may very well determine our future influence in health affairs.

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# Seminal Vesicle Carcinoma

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As far as can be determined, no case of seminal vesicle carcinoma has been reported in the literature in the last six years. Because of this long time lapse, it is good to review the subject again, realizing that seminal vesicle carcinoma is still a comparatively rare tumor. The case herein reported brings the total number to eight in the American literature. There are twenty-one other cases in the foreign medical literature.

In 1925, Lyons<sup>1</sup> reported a case of seminal vesicle carcinoma. In 1936, McNally and Cochem<sup>2</sup> reported a case of seminal vesicle carcinoma. That paper was read at the annual meeting of the American Urological Association in Boston. At that time sixteen instances of primary carcinoma of the seminal vesicle had been reported, four of which were definitely proved. McNally and Cochem reported that their patient was alive and free of tumor symptoms two years after radical perineal excision.

In 1942, McCrae<sup>3</sup> reported two cases of seminal vesicle carcinoma. In 1946, Lazarus<sup>4</sup> reviewed the literature thoroughly up to that date and added a case of his own.

In 1954, Smith<sup>5</sup> reported two more cases bringing the number to seven in the American literature.

George H. Ewell,<sup>6</sup> of Madison, Wisconsin, in a personal communication, states that he is preparing a paper for publication concerning a patient with primary carcinoma of the seminal vesicle. He removed the involved seminal vesicle along with a portion of the prostatic capsule. He approached the tumor transsacally as recommended by Verne Hunt,<sup>7</sup> then of the Mayo Clinic. Dr. Ewell has had his patient on Stilbestrol. The patient is alive and well ten years after surgery.

Dixon and Moore<sup>8</sup> have commented upon the effect of castration on the seminal vesicles causing them to atrophy. In the case herein presented, it should be noted that there was temporary recession of the tumor following castration and hormonal therapy.

Frank Dixon and Robert Moore<sup>8</sup> of the Armed Forces Institute of Pathology describe the seminal vesicles as "sac like outpouchings from the vasa deferentia at the termination of the latter in the ejaculatory ducts. They have irregular branching lumens with numerous outpocketings lined by a pseudostratified epithelium which often contains yellow pigment and secretory granules. The vesicular wall is composed of smooth muscle similar to, but thinner than that forming the wall of the vas. The vesicles are dependent upon testicular

hormones for full development and after castration they atrophy markedly, a phenomenon reversible by injection of androgens."

As they state, "It is curious that two structures such as the seminal vesicle and prostate, arising from the same embryonic anlage and responding to the same hormonal stimuli, should differ so much in the frequency with which they give rise to tumor."

They give the following description of seminal vesicle tumors:

**Gross:** The tumor replaces the vesicle and invades locally in over half of the cases, involving the opposite vesicle, the prostate and the floor of the bladder with about equal frequency. Obstruction of the prostatic urethra, or lower portions of one or both ureters is common. Extension to the rectum is a rare occurrence. The tumors attain a large size, sometimes forming a mass from 10-15 cm. in diameter.

**Microscopic:** These tumors apparently arise from the lining epithelium of the vesicle and are for the most part adenocarcinoma. Thirteen cases have been reported as adenocarcinoma, some with papillary tendencies and four as undifferentiated carcinoma. The adenocarcinomas are relatively well differentiated composed of rather clear columnar cells forming acini and in some instances papillary projections.

**Metastases:** Metastases are present in about two-thirds of the cases. Regional lymph nodes, bones and lungs are the most frequent sites.

**Differential Diagnoses:** Tumors of the seminal vesicles may be misdiagnosed because of their rarity. They must be differentiated from prostatic carcinoma, rectal carcinoma and metastatic rectal shelf tumors. The microscopic picture is suggestive because of its frequent adenopapillary structure but not distinctive enough to allow positive histologic diagnosis and absolute differentiation from the far more frequent prostatic carcinoma. As a result, history as well as clinical and gross findings must be used in establishing the diagnosis. The absence of invasion of the rectal mucosa by seminal vesicle carcinoma will differentiate it from primary rectal carcinoma. Frequent invasion of structures of the urinary tract by seminal vesicle carcinoma aids in differentiating it from metastatic rectal shelf tumors, which rarely involve the urinary tract.<sup>8</sup>

## CASE REPORT

A storekeeper, forty-eight years of age, was first seen in December 1953 because of blood in his ejaculatory fluid. He had noted this off and on for five months.

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There were no other urinary symptoms such as frequency, burning or pain. Later, initial hematuria was noted. He sought the advice of his family doctor, who referred him to the author.

His past health had always been good and there were no significant family diseases. He had a wife and one child.

His physical examination was essentially negative except for the prostate. The prostate was of normal size but quite "boggy." The prostatic secretion was bloody. The seminal vesicles were not palpable and there were no rectal masses.

He was admitted to the Mercy Hospital, Portland, Maine in December 1953. A panendoscopic examination showed blood streaming from the right ejaculatory duct. Gentle rectal palpation of the prostate over the panendoscope seemed to increase the flow of blood. The verumontanum appeared slightly granulomatous. The prostate was not enlarged. Examination of the bladder revealed no pathology. Retrograde pyelograms were normal. The resectoscope was used to obtain a biopsy of the verumontanum following which the right lobe of the prostate was resected and the area fulgurated. The pathology report was "hemorrhage into the prostatic tissue, negative verumontanum." He was asymptomatic until the fall of 1954 at which time he had frequent periods of blood.

He returned for examination in March of 1955. At this time a firm nodule about 1 cm. in diameter was felt in his right seminal vesicle. A repeat panendoscopy with pyelograms was done. Again, blood was seen oozing from the ducts on the right side: none from the left side. The firm nodule was again palpated and confirmed by other doctors. It was felt that we were dealing with an early primary carcinoma of the seminal vesicle.

A few days later in March the tumor was exposed perineally and a portion excised for frozen section which was reported as papillary carcinoma. There appeared to be no extension of the tumor beyond the right seminal vesicle. A total prostatectomy and bilateral seminal vesiculectomy was done. The patient's post-operative course was uncomplicated, his control was very good. He remained well until December 1957.

Early in December 1957 the patient had a bilateral hernia repair in another hospital. It was necessary to catheterize him at that time which caused him to have hematuria for three days. The patient also wanted his hemorrhoids removed and examination revealed a small mass rectally. This mass was in the midline in the area of the excised prostate about 5 cm. in diameter. On January 7, 1958 a bilateral orchiectomy was done and hormones instituted. Three months later the mass had entirely regressed only to recur again in another three months. A transurethral resection of the mass at the vesical neck was done on July 17, 1958. The pathology report was the same as the original tumor.

On July 30, 1958 a pelvic exenteration with an ilial

loop diversion and colostomy was carried out at the Mercy Hospital. There was no sign of recurrence of the tumor until November 1958. A small mass developed in the pubic area which responded temporarily to deep x-ray therapy. The tumor continued to progress and the patient died on April 24, 1959.

#### PATHOLOGY REPORTS

##### 1. Specimen: Prostate.

Gross Description: The biopsy specimen from the right seminal vesicle is a friable white tumor measuring 2.5 cm. in its greatest diameter. The specimen consists of a prostate gland and seminal vesicles measuring 8 x 5 x 2 cm. The right seminal vesicle is not intact. A portion had been removed previously for frozen section diagnosis. The portion that remains does not appear to be grossly abnormal. The left seminal vesicle appears to be normal. The prostate is small and is composed of resilient firm tissue. Sections of the right seminal vesicle are labelled (A). Those from the left seminal vesicle and prostate are labelled (B).

Microscopic Description: The biopsy that was removed from the right seminal vesicle contains a papillary tumor arising from the mucosa. The cells composing the tumor are pleomorphic and anaplastic. A few mitotic figures are seen and there are some tumor giant cells. The sections taken through the right seminal vesicle of the radical prostatectomy specimen disclose similar tumor arising in the epithelium of the seminal vesicles. The left seminal vesicle is normal. The prostatic acini are somewhat dilated and there is a chronic inflammatory reaction of the stroma but no evidence of any malignancy.

Pathologic Diagnosis: Primary adenocarcinoma arising in the right seminal vesicle. Negative left seminal vesicle. Chronic inflammation of the stroma of the prostate.

##### 2. Specimen: Tissue removed transurethrally from the region of the prostate.

Gross Description: Specimen consists of numerous fragments of pink and gray mucinous soft tissue weighing together 25 gms.

Microscopic Description: The lesion removed transurethrally is a very malignant tumor composed of masses of very large cells having abundant vacuolated cytoplasm and large irregular hyperchromatic nuclei. In some places the tumor has spindle cells and there are also many tumor giant cells.

The slides S-480-55 were reviewed. This was the original tumor of the seminal vesicle, a papillary type of carcinoma. The cells were compared with this recent tumor and some of the cells are similar. However, there is no evidence of any papillary structure in the present tumor but it is evidently a recurrence of the original carcinoma.

Pathologic Diagnosis: Anaplastic undifferentiated carcinoma, the recurrence of a primary seminal vesicle carcinoma.



3. Specimen: Rectum, bladder, appendix, and iliac lymph nodes.

Gross Description: Specimen consists of anal skin with 20 cm. of large intestine. Anterior to this is the bladder. The lumen of the bladder is filled with blood. At the bladder neck there is an ulcerated tumor measuring 5 x 4 cm. This tumor extends anteriorly through the wall into the surrounding fat. A portion of the tumor is polypoid, projecting into the lumen of the bladder. This part of the tumor is very soft and gray and yellow in appearance.

The large intestine contains mucus which has a reddish stain. There are no lesions within the mucosa of the rectum.

Also received an appendix measuring 6 x 0.4 cm. The distal end is fibrotic. It measures 0.3 cm. in diameter.

The iliac lymph nodes are isolated. Several contain hard white tissue.

Frozen Section Diagnosis: Lymph nodes negative for tumor.

Microscopic Description: Some of the sections show recurrent tumor. This is somewhat different than the material removed recently at biopsy. In this instance the lesion is quite cellular with fairly close packed cells with abundant cytoplasm, sometimes vacuolated and with nuclei which vary tremendously in shape and in distribution of the chromatin. Seventeen lymph nodes are examined. Several show hyperplasia of the sinus endothelium. None show involvement by tumor.

Pathologic Diagnoses: Recurrent adenocarcinoma of seminal vesicle invading bladder and vesicle fat. No metastases in seventeen regional nodes examined. En bloc section of tumor with bladder and rectum and colon. Fibrosis of appendix.

#### DISCUSSION

The patient herein reported first noted hemospermia and a little later some initial hematuria but no frequency, dysuria, perineal or rectal pain. It was fifteen months before a palpable nodule was felt in his right seminal vesicle. Hemospermia was not present in the other cases reported in the literature which makes me feel that those other patients simply did not notice the hemospermia. It seems logical that hemospermia should be an early sign of seminal vesicle pathology. Therefore, on the basis of this present experience, patients with hemospermia should not only be thoroughly investigated initially, but also should be examined at periodic intervals for about two years.

In addition to the pathologist who made the original

diagnosis, the microscopic slides of this case were examined by a number of pathologists and urologists.

#### SUMMARY

As far as can be determined, only seven cases of seminal vesicle carcinoma have been reported in the American literature. The case herein presented brings the total number to eight. In the foreign literature there are twenty-one cases making this still a comparatively rare tumor. It is felt that patients with hemospermia should be given thorough and repeated examinations.

A diagnosis of primary carcinoma of the seminal vesicle was made on the basis of hemospermia and the finding of a firm nodule in the right seminal vesicle proved by perineal exposure and frozen section of the biopsy.

A radical perineal prostatectomy and bilateral seminal vesiculectomy was done. The histologic examination of the tissue showed no involvement of the prostate or the other seminal vesicle.

Recurrence of the tumor occurred at the bladder neck, partially removed by transurethral resection. Regression of the tumor took place following a bilateral orchiectomy and hormonal therapy. The tumor recurred. A pelvic exenteration was carried out giving the patient an ilial loop diversion as well as a colostomy. The patient survived for six more months only to have the tumor recur above the symphysis.

He died in April 1959, six years after his first episode of hemospermia.

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# CPC: COR Pulmonale Due To Pulmonary Vascular Disease\*

**Dr. George O. Chase:** Tonight we present a somewhat different type of pathological conference. A pathologist among our national group, one Norbet Enger, M.D., has pointed up that the time honored CPC is somewhat less than illuminating to the rank and file of the staff.

In case the significance of the epithet "time honored" escapes you, reference is made to the type of presentation of which the case records of the Massachusetts General Hospital presented in the New England Journal of medicine are examples.

In this approach the pathologist unearths from autopsy or surgical files a rare and difficult case and prepares a protocol of the clinical course. A whiz-kid type clinician who has never heard of the patient, and hopefully has never heard of the disease, is approached with a challenge to discuss the case and diagnose it before the assembled staff.

The Clinician begins to review the protocol. He questions the pathologist as to whether, let us say, the serum aldosterone level was determined. The answer is no. The clinician may not comment, but whether or no, there is an implicit criticism of the protocol in this deficiency, and it is crystal clear to the listeners, that the clinician is laboring under difficulties with an ineptly prepared and incomplete case. The audience is treated to this and other devices of what someone has referred to as CPCmanship as he adroitly threads his way among the snares and pitfalls built into the protocol by the pathologist. He arrives finally at a series of diagnoses, skillfully stated in such a way as to make it clear that while he may not always be right, he is never wrong.

It is then the pathologist's turn. He gleefully displays the pathologic anatomy, pontificates splendidly, if somewhat hypothetically on the pathologic physiology, and comments scathingly on the list of diagnoses.

All this has been amusing to the assembly but there is a real question as to whether it has broadened their professional lives to any significant degree.

Tonight's case is a rare entity but the signs and symptoms are common. It is presented by not one, but three whiz-kid clinicians all of whom dealt with the patient and her problem, and all of whom know the autopsy findings in advance.

We shall have the advantage of a recital of the actual handling of an actual case by the physicians who actually handled it. We shall hear chronicled the maturation

and sophistication of their judgements as the case progressed from inception through the postmortem study.

Dr. William J. White, who is the physician to the School of Nursing here in the hospital, and who had most to do with the case, particularly in the beginning, will present the clinical story.

**Dr. William J. White:** This 19 year old student nurse had a ten day episode of intermittent hematemesis in May of 1956 at age 14. She was admitted to the Children's Hospital in Boston and the physical examination there was unremarkable except for splenomegaly. An esophagoscopy revealed varices and subsequently a splenoportogram under anesthesia revealed an enlarged splenic vein with huge periesophageal tributaries. There was no flow from the splenic vein into the portal vein and the impression was portal vein obstruction. A spleno-renal shunt was performed and a liver biopsy showed organizing thrombi in what were interpreted as several portal vein radicles. There was neither gross nor microscopic evidence of hepatic cirrhosis. The spleen showed only fibrocongestive enlargement. The spleno-renal shunt was successful in decompressing the varices and she remained well.

In May of 1959 a physician at another hospital indicated that there was no medical contra-indication to her performing the rigorous duties of a student nurse and she was admitted to the Mercy Hospital School of Nursing as a student nurse in September of 1959. There were no apparent abnormalities, until one day when she had a convulsive seizure and fell, and following this she was noted to be somewhat cyanotic. This incident occurred after she had hurried from another building to a class. The physical examination at this time was essentially within normal limits except for noticeable jaundice and she was admitted to the hospital, on September 22, 1959. A laboratory workup was done and the hemogram and urinalysis were within normal limits and the fasting blood sugar 94 mgs%. The bilirubin which was done on admission was 8.6 mgs% with 8.1 mgs% indirect. This had subsided by the 30th of September to 2 mgs%. The thymol turbidity was normal and cephalin flocculation was 3+, becoming negative about four weeks later. The BSP was 14% and the stool examination for occult blood was negative. Urobilinogen was found in the urine.

X rays taken showed the skull to be normal. The pineal was not calcified and the pituitary fossa was normal. Also, there was no evidence of fracture. A

\*Mercy Hospital, Portland, Maine



barium swallow done at this time was normal and showed no evidence of recurrent varices. After discharge she went home.

On December 15, 1959 she was readmitted because of a convulsive seizure, again occurring after some unusual activity and at this time she was incontinent of urine. This happened during a visit with some of her friends at the nursing school. On this admission the physical examination showed the patient obviously jaundiced and there was a Grade II pulmonic systolic murmur with a third sound audible at the apex. A neurological survey was essentially negative. The temperature, pulse, respirations and blood pressure were within normal limits.

A workup at this time showed a persistent elevation of bilirubin to 3 mgs%, and the BSP showed 20% retention. The urinalysis and blood picture were essentially normal except that the white count was 23,000. An EKG showed an abnormal tracing with a prolonged Q-T interval which was not diagnostic. An electroencephalogram showed mildly but definitely abnormal tracing with a mild diffuse cerebral dysrhythmia and cortical dysfunction. It was characteristic of an inter-seizure tracing without focal change. She was discharged after consultation with a neurologist to take Dilantin® medication for control of the seizures. She then left the nursing school and was apparently fairly well at home for the next few months.

In May of 1960 laboratory tests showed a bilirubin of 0.8 mgs% and BSP 5.2% retention. She reapplied for admission to the nursing school for September of 1960 and with the strong recommendation of her family physician and the neurologist she was readmitted to the school. Early in the course while on a picnic she had a grand mal type convulsive seizure. Although she did not communicate with the doctor and officials of the school, her classmates stated that walking made breathing extremely difficult for her.

Her final admission was November of 1960 and the patient gave a history of having had a grand mal convulsion three days prior to admission after hurrying to a class and walking upstairs. In the interim she had been shaking and weak and unusually short of breath. On the day of admission she complained of nausea and abdominal distress at the Student Health Office and was immediately admitted. Shortly afterwards she had a grand mal convulsive seizure. Following this, she complained of extreme dyspnea and chest pain. In the following hours she was remarkably short of breath on the slightest activity, requiring oxygen continually. After about eight to ten hours the convulsive seizures were repeated and following each of them she was very cyanotic. Death followed after eighteen hours in the hospital after one of these seizures.

She was quite a problem to us because of her tremendous desire to become a nurse. Much of the information in the protocol was obtained from her friends after she died. She did not communicate concerning many of the

convulsive incidents and never complained of shortness of breath to us. I could go on and on about the trials of a student health physician, beset on all sides by friends, relatives, and physicians urging admission to nursing school of a young girl the status of whose health leaves something to be desired. But we had better get on with the anatomy.

**Dr. Chase:** This case is being held forth as an instance of cor pulmonale due to multiple pulmonary emboli involving the tiny pulmonary arteries and arterioles with organization and marked narrowing of the vessels as a result. The most important anatomical findings were in the chest where the heart, slightly enlarged at 380 gms. was found to show an enormous right-sided preponderance. The pulmonary conus was unusually prominent and looking at the heart in situ the ventricle provided the only view of it. The cavae were distended and the right atrium was enormously distended and thick walled with some thickening of the endocardium. The slightly dilated tricuspid valve measured 12 cm. in circumference. The remainder of the valves were unremarkable and there were no abnormalities of any of the valves which were delicate and pliable.

The right ventricle, measured, in spite of its dilatation, 15 mm. in width at a point midway between the base and the apex compared to 16 mm. width of the left ventricle. The right ventricle occupied the apex. The lungs showed no gross lesions whatsoever. The right lung weighed 225 gms., the left lung 175 gms. However, on the microscopic study there were lesions of small arterial blood vessels in all stages of development from the thrombosed vessels in which early organ-



FIG. 1. Gross appearance of heart in situ. Note large right ventricle and wide pulmonary conus.



ization of the clot was proceeding, to extremely narrow arterioles where the organization was complete, where the blood vessels showed a circumferential arrangement of the nuclei of all the fibres, and gave the appearance of an ordinary advanced degree of pulmonary arteriolar sclerosis.

The liver was expected to be unusually abnormal and this expectation was not realized. It weighed 1070 gms. The capsule was fairly smooth. There was an irregular nodular palpable aspect of the liver but the surface did not show any distinct nodules, only an irregularly mottled aspect. The left lobe of the liver was small but not particularly fibrotic. Microscopic study showed no evidence of cirrhosis, or vascular lesion. There were foci in which walls of the sinusoids were perceptibly thickened by fibrous tissue, and these areas were held to account for the gross appearance. An examination of the vascular system showed the portal vein to be somewhat thick walled and with narrow lumen, a circumference of only 8 mm. It was noted however to communicate well with the superior mesenteric and the splenic vein. The splenic vein was found anastomosed to the renal vein on the left. The spleen was surgically absent.

A superficial examination of pelvic veins and those structures accessible through the primary incision did not reveal any source of emboli to the lung, although a source from small venous channels in the extremities was not ruled out. It is felt that in view of the size of the vessels embolized and the failure to observe in the larger grossly discernible structures any evidence of clot either old or recent that the portal vein, obstructed as

it no doubt was by clot several years prior, provided the source of these emboli.

I refer you to an article in the September, 1960, *CIRCULATION*,<sup>2</sup> in which cases similar to this one are discussed. This embolization occurs because fragments of clot can become detached from the portal vein and make their way by anastomotic channels into the systemic circulation and thence into the lesser circulation of the lung, bypassing the liver completely. The size of these anastomotic channels indicates that the possibility of fragments of clot as small as 40 micra. escaping and passing into the lesser circulation can be realized.

**Discussion by Dr. Albert Aranson:** When first seen by me this student nurse had signs and symptoms involving three different systems and as is usually the case an attempt was made rather unsuccessfully during her lifetime to relate these to each other and bring them under the heading of a single disease. With respect to the surgery which had been performed at the age of 14 in Boston, we had available only a brief note from the Children's Hospital, and the information that the liver biopsy showed organizing thrombi was not available until very recently, several months after her death. When seen by me in September of 1959 during her first admission to this hospital, she was definitely jaundiced, the B.S.P. was elevated and urobilinogen was found in the urine. It was felt at that time that she had had a flare-up of what was previously thought to be a post-necrotic cirrhosis. On this admission as well as on her two other admissions, a grade II systolic murmur was heard at the pulmonic area but the heart sounds were otherwise within normal limits. With electroencephalographic evidence of a cerebral dysrhythmia, it was felt that she definitely had epilepsy and as noted she was started on Dilantin which appeared to control her seizures. In this respect, these seizures which are described as grand mal convulsions with syncope were never witnessed by either Dr. White or myself and we had to depend on the description of her fellow student nurses.

On her final admission 11/2/60, she was in definite congestive heart failure evidently precipitated by a series of convulsive seizures, again not witnessed except by her classmates and death was very obviously a cardiac one. Dr. Chase has already referred to the article in the September 1960 issue of *CIRCULATION* which reports on six cases of co-existing arterial and portal vein hypertension. In five of these, the pulmonary vascular lesion responsible for pulmonary hypertension resembled those seen in recurrent embolization of the lungs. Three of the cases had portal vein thromboses and one of these also had thrombosis of the esophageal varices. As noted various theories have been raised as to the origin of these lesions in the lung including necrotizing arteritis which is the least likely, intravascular thrombo in the lungs themselves and multiple emboli from the portal vein as well as the collateral esophageal veins or varices.

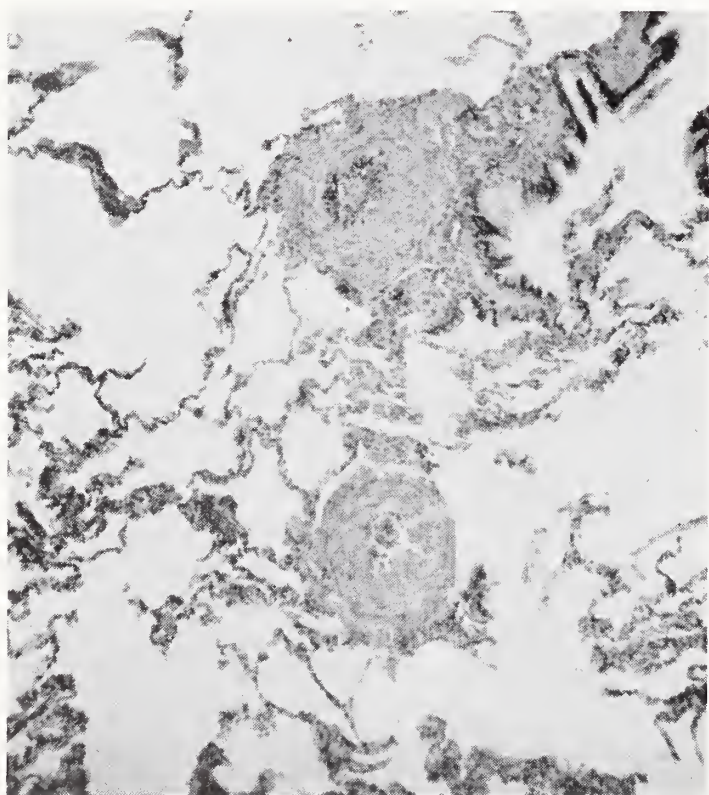


FIG. 2. Low power X100. Note hypertrophy of arteriolar walls.



At autopsy, this girl's lungs were grossly normal, the diagnosis being made microscopically, although it cannot be proven in this case that the pulmonary lesions which resulted in pulmonary hypertension and cor pulmonale did not arise in the portal vein. The most attractive theory in my opinion is that of intravascular thromboses in the lungs themselves in response to portal vein thrombosis. In support of this, it has been shown experimentally that the injection of thromboplastic material intravenously causes widespread intravenous thromboses. It has been further shown that the portal system tolerates this much better than the systemic venous system and in theory, at least, it is easy to see how thrombosis in the portal vein system might cause intravascular thromboses in the small vessels of the pulmonary artery. To develop this further, people with cirrhosis are known to have increased cardiac output and with a restricted pulmonary vascular bed, there may be an unusual rise in pulmonary artery pressure with resulting right heart failure. That this was already the case with our patient on her first admission to the hospital in 1959 is indicated by the signs of pulmonary artery hypertension, the pulmonic murmur which at the time was thought to be due to a congenital lesion as well as the E.K.G. which was certainly consistent with a right heart strain pattern. Treatment of this condition is a matter of discussion. It is usually a postmortem diagnosis. In the face of previous liver disease, it would seem questionable whether anticoagulant therapy could be maintained adequately even were the diagnosis suspected antemortem, although this is a definite possibility.

**Dr. George L. Maltby:** I have great sympathy with Dr. White's comments about the difficulties and pressures that are brought to bear to keep girls in the Nursing Training School. However, in this instance I still feel and I felt that the convulsive disorder per se could have been controlled and should not have kept her out of nursing. She was a dedicated girl and I am sure if there hadn't been these other complications of pulmonary and cardiac disease, she would have carried on and finished her training and become an excellent nurse with her convulsive disorder well controlled on a medical basis.

I saw this girl in consultation for Dr. Winchenbach of Bath, her family doctor, because of black-out spells and it was my feeling that she was having idiopathic convulsive equivalents. She had a mildly abnormal electroencephalogram for the age of eighteen consistent with an interseizural record without focal change and her neurological examination otherwise was entirely within normal limits.

There were also some interesting points in the past history on this girl and these are: 1. She was a twin and 2. There was a history of convulsive seizures and jaundice in the first few days of life, both of which facts may play some role in the etiological understanding of her later convulsive seizures.

This girl had a number of convulsive seizures over several years before her final terminal illness but in her final terminal illness, she died in a convulsive status, in spite of the essentially complete negative findings as far as the brain was concerned. All this bears out in my mind, my strong feeling that this girl was basically an idiopathic convulsor (idiopathic epileptic). In other words, she had a lowered threshold of convulsive seizures which she had probably had since birth and which may have been contributed to by her difficult neonatal period and difficult birth history. This fact allows me to expound on a fairly constant fetish of mine. There isn't any individual that does not have a convulsive threshold. Some of us have a high one and some have a low one. When the threshold is low enough in an individual so that convulsive seizures appear without good reason and periodically, then the patient becomes a convulsor or an epileptic.

To me a convulsive seizure, especially a grand mal, is a convulsion, no matter by what name it is called or how you slice it. The basic problem is the patient's resistance or threshold for convulsive seizures which is composed of many factors. One of these is a basic genetic factor of inheritance and this basic genetic factor is influenced by environmental changes such as difficult birth, severe illnesses with central nervous system involvement, trauma, etc. Examples of this basic variation in patient threshold to convulsive seizures, of course, are frequent. Among them, two patients with essentially the same severe head injury, one with repeated convulsive seizures, and one without; two patients with a brain tumor located essentially in the same area of the brain and of essentially the same size, one manifesting his symptoms with convulsive seizures and one without. Another very interesting manifestation of this resistance or threshold phenomena is eclampsia. As I understand it, the obstetrician's differentiation between toxemia of pregnancy and eclampsia is a convulsive seizure. We see many patients with severe toxemia of pregnancy whose urinary changes, blood vessel and blood pressure changes are more severe by medical standards than many patients that have convulsions with their toxemia, thus becoming eclamptics. Why does one have a convulsion and is labeled eclamptic and the other not? My strong feeling, as outlined above, is that the eclamptic has a basically lowered threshold or resistance to convulsive seizures. This has been borne out by some careful studies on a group of eclamptics as against a group of toxemias of pregnancy with careful past histories, follow-up histories and E.E.G.'s.

However, I think I have belabored this point long enough and given you an impression of how strongly I feel about this basic concept in convulsive disorders or epilepsy. Specifically in the case of this girl, a student nurse, I might reiterate that I feel that she had a basic lowered resistance to convulsive seizures, probably with a genetic factor as a basis, but without definite

*Continued on Page 157*

# Current Coagulation Theory

RONALD S. POTTS, M.D., C.M.\*

Confusion should not necessarily result from access to a modern library. Yet to the casual student, coagulation and confusion may too often seem hand and glove — particularly when several different sources are consulted. Having mastered the schematics and terminology of current coagulation in one reference, broadened understanding is sought by exposure to another reference and almost immediately one is confronted by an apparently completely different theory of coagulation.

As a matter of fact, though far from completely understood, the theory of coagulation and presumed sequence of events is almost uniformly agreed upon. The terminology for most of the proposed substances concerned with and participating in coagulation is anything but standardized. And the widely read student is expected to intersubstitute at least 32 terms apt to be used in defining or describing approximately 10 currently believed different participants in coagulation.

The following is an attempt to simplify as much as possible current coagulation theory in order to provide an abbreviated practical understanding of coagulation defects. Liberal reference to the writings of Miale<sup>2,3</sup> has been utilized and this may be considered an endorsement of that author's work.

## *The Classic Theory:*

1. thromboplastin + prothrombin +  $\text{Ca}^{++}$   $\rightsquigarrow$  thrombin
2. thrombin + fibrinogen  $\rightsquigarrow$  fibrin

The above theory has stood the test of time and the events schematically portrayed probably do in fact occur. Since the above reactants cannot be present in blood constantly in active state, the recent developments and theories concern the likelihood of inactive precursors and enzyme catalysts, known as coagulation factors.

One of the penalties of widespread independent research is the abundance of synonyms for each proposed coagulation factor. For example, synonyms for the coagulation factor to be referred to as factor V include proacceleran, prothrombin accelerator, labile factor, plasma Ac-globulin, and thrombogen. The resulting verbal array is best avoided by a Roman numeral designation for these factors as proposed by Koller,<sup>4</sup> and Miale.<sup>2</sup> This circumvents precedence, individual preference, and the use of terms which imply greater knowledge than is justified by facts.

The first four factors are the basic factors in the classic theory and their modern names are not controversial.

## *Blood Coagulation Factors:*

fibrinogen	V	VIII
prothrombin	VI	IX
thrombin	VII	X
thromboplastin		

Factors V, VI, and VII are considered prothrombin conversion accelerators, hastening the change of prothrombin to thrombin and/or increasing the yield of thrombin.

Factors VIII, IX, and X are considered *plasma* thromboplastin precursors or ingredients. These interreact with platelets in the presence of ionic calcium to generate *plasma* thromboplastin. The existence of the latter substance is assumed by analogy to *tissue* thromboplastin which exists in active form in all body cells and needs only to be released into the blood to initiate coagulation. Since blood in vitro not contaminated with tissue juice does coagulate and, since active thromboplastin cannot obviously constantly exist in the blood, a complicated scheme for the generation of a *plasma* thromboplastin is currently in vogue.

The above factors V-X are spoken of as definite substances. None has yet been isolated in chemically purified form and the existence of some is now seriously doubted. If future work continues to support the latter contention, the coagulation scheme becomes simplified and progressively approaches once again the classic theory. Factor VI is probably a more reactive form of factor V; factor VII is probably a derivative of prothrombin. Factors IX and X are not completely utilized in clotting. Deficiencies in factors V and VII are often associated with deficiencies in factors IX and X; the converse is also true.<sup>2</sup>

It may well be that only factors V and VIII are definite entities and, if so, this realization will greatly simplify what otherwise can be a very complicated and distressing field of study.

For purposes of presentation and understanding, blood coagulation may be considered composed of four phases:<sup>2</sup>

The possible reasons for a defective Phase are multiple and the efficiency of each Phase depends on that of the preceding Phases.

Some authorities combine Phases I and II, depicting only three phases. This tends to minimize the importance of platelets and also to complicate the investigation of possible coagulation disorders. Above and below a certain range of platelet concentration, blood clots poorly; and not at all in the "absence" of platelets (except in the presence of *tissue* thromboplastin).

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Phase I: Lysis of Platelets, or the Initiator Reaction

platelets  $\xrightarrow[\text{thrombin}]{\text{contact}}$  platelet factors 1,2,3,4

Phase II: Plasma Thromboplastogenesis

platelet factor 3  
 factor VIII  
 factor IX  
 factor X  
 ? others

$\xrightarrow[\text{thrombin}]{\text{Ca}^{++}}$  plasma thromboplastin

Phase III: Thrombogenesis

prothrombin + plasma thromboplastin  $\xrightarrow[\text{factor V, factor VII, thrombin, ? others}]{\text{Ca}^{++}}$  thrombin

Phase IV: Fibrin Formation

fibrinogen  $\xrightarrow{\text{thrombin}}$  fibrin

Similarly, though its utility in vivo is doubtful, clot retraction is dependent on an optimum range of platelet concentration. Platelet factor 3 is the most important and is known to be a phospholipid. Ethanolamine diphosphatide has the same action.<sup>2</sup>

For convenience, these Phases have been presented as separate isolated events. Such is not the case in actual coagulation. Once the process is triggered by the lysis of platelets (or the presence of *tissue* thromboplastin), all Phases probably occur simultaneously in geometric progression. The entire scheme is wonderfully autocatalyzed. Notice the presence of thrombin in each portrayed Phase. The very first thrombin formed promotes further lysis of platelets with resultant formation of more thrombin, which also promotes all Phases. In fact, thrombin may be the most important single catalyst in the entire process. Thrombin activates several hundred times its own weight of fibrinogen. At the same time, fibrin tends to hinder the conversion of fibrinogen, acting as a brake to the process. Also, it is theorized that the factors exist in loose conjugation with specific inhibitors to the action of each factor.

At this time, it seems necessary to stress the role of normal blood vessels. The most important single component in hemostasis is intact vascular integrity. No matter what the coagulation defect may be, bleeding does not occur while the vascular system is intact and otherwise normal.

With these 4 Phases in mind, an orderly approach to the investigation of suspected hemorrhagic disorders is

possible. Laboratory procedures may be used to determine the demonstrable efficiency of each Phase, thusly:

*Phase I*

Bleeding time  
Clot retraction  
Tourniquet test  
Platelet count  
Prothrombin consumption

*Phase II*

Coagulation time  
Prothrombin consumption  
Thromboplastin generation time (TGT)

*Phase III*

Prothrombin time (one-stage)

*Phase IV*

Coagulation time  
Prothrombin time (one-stage)

*Vascular Defect*

Bleeding time  
Tourniquet test

A few useful generalities are indicated at this point:

1. If there is a bleeding disorder, there will most always be a history of such.

*Continued on Page 156*





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## PATIENTS WITH EMOTIONAL AND NERVOUS DISORDERS

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## PATIENTS WHOSE APPETITES SHOULD NOT BE STIMULATED

Among patients treated with ARISTOCORT, there was less appetite stimulation, especially in those who had previously gained weight on long-term therapy with other steroids.<sup>3</sup>

## PATIENTS WITH HYPERTENSION

There was no blood pressure increase in any patient treated for bronchial asthma, and in some, blood pressure fell. Of these, three had been hypertensive.<sup>4</sup>

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**Precautions:** Collateral hormonal effects generally associated with corticosteroids may be induced. These include Cushingoid manifestations and muscle weakness. However, sodium and potassium retention, edema, weight gain, psychic aberration and hypertension are exceedingly rare. In the treatment of allergic respiratory disorders, dosage should be individualized and kept at the lowest level needed to control symptoms. Dosage should not exceed 36 mg. daily without potassium supplementation. Drug should not be withdrawn abruptly. Contraindicated in herpes simplex and chicken pox.

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2. If the disorder is severe enough to cause abnormal laboratory test results, there will always be a positive history.

3. If the disorder is not severe enough to affect laboratory studies, there will still most always be a positive history.

4. Spontaneous bleeding indicates a severe disorder; abnormal bleeding only after trauma suggests a mild or trivial disorder.

5. Splenomegaly is almost never associated with a primary bleeding disorder.

6. If vascular integrity is undisturbed, bleeding cannot occur.

7. Family histories are helpful only if positive.

8. The defective Phase is often indicated by the history and physical examination: true petechiae are usually associated only with Phase I or vascular defects; ecchymoses may be associated with any coagulation defect, usually severe; intraarticular and intramuscular hemorrhage is usually associated with Phase II defects; malnutrition or liver disease may be associated with defects in Phases III or IV; pregnancy or malignant neoplasms may be associated with defects in Phase IV.

9. Slightly abnormal test results are usually insignificant by themselves.

10. It is unusual to find defects in more than one Phase. When present, anticoagulants are usually responsible.

Fortunately, bleeding disorders tend to yield patterns of abnormal laboratory test results:<sup>2</sup>

Defects in Phase I are the thrombocytopenias, thrombasthenias, and thrombocythemas. The TGT determin-

ation is of value only when enough patient's platelets can be harvested in the first group of diseases.

Although the bleeding time determination and the tourniquet test are listed as assessing Phase I activity, they are more truly means of determining vascular ability to withstand trauma — and only that of the small cutaneous and superficial subcutaneous vessels. Healthy vessels can compensate for slight platelet dysfunction or slightly abnormal platelet concentration.

Defects in Phase II are the hemophilias and the factor defect is revealed by the TGT determination, which also guides proper therapy. This particular test procedure is of such complexity, infrequency, and importance that it is best performed only in specialized coagulation laboratories.

Defects in Phases III and IV are easily differentiated by semi-quantitative screening procedures to detect optimum fibrinogen concentration, which does affect the one-stage prothrombin time. If fibrinogen is adequate, then the defect is in Phase III and substitution experiments are readily done to see which of the participating factors is at fault.

A critical analysis of these laboratory procedures is beyond the scope of this paper and the reader is referred to the texts listed.<sup>1,2</sup> Similarly, for a clinical classification of hemorrhagic diseases, these same texts are excellent.

With the use of impersonal terminology, general communication is improved. Having the academic phases of coagulation in mind, a systematic approach to a clinical problem is possible. In few other areas is proper liaison between clinical and laboratory colleagues so necessary. It is important to remember that several

<i>Test</i>	<i>Defective Phase I</i>	<i>Defective Phase II</i>	<i>Defective Phase III</i>	<i>Defective Phase IV</i>	<i>Vascular Defect</i>
Bleeding time	Prolonged (or normal)	May be pro- longed	May be pro- longed	May be pro- longed	Prolonged
Clotting time		Prolonged	May be pro- longed	Prolonged	
Clot retraction	Poor				
Tourniquet test	Positive (or negative)				Positive
Platelet count	Abnormal (or normal)				
Prothrombin time			Prolonged	Prolonged	
Prothrombin consumption	Impaired	Impaired			
TGT		Impaired			



of the laboratory procedures listed are at best crude measurements. Slight deviations from normal are often insignificant; but also coagulation defects may be present which cannot be demonstrated. Some hemophiliacs, having had proper therapy and whose laboratory tests reveal no persisting factor deficiency, continue to hemorrhage as though hemostasis had completely failed. These cases dramatically portray the importance of normal vascular integrity.

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CPC: COR PULMONALE DUE TO PULMONARY VASCULAR DISEASE — *Continued from page 151*

family history, this statement cannot be made definitely. However, the neonatal period, the birth history, the jaundiced and other problems since early life certainly were factors in lowering her resistance and finally the terminal event of her severe cardio-pulmonary disease was the trigger mechanism that increased her convulsive seizures and apparently put her into the terminal state which might have been classified status epilepticus. If

these concepts are correct, one would expect at autopsy to find just what was found in the brain; nothing organic or specific.

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## Across The Desk

### Statistics Again

A report from the oldest and one of the largest automobile insurance companies in the United States contains some interesting observations on the nation's highway safety record.

The Travelers Insurance Companies of Hartford, Connecticut, in its annual tally of highway casualties, says: "We have long contended that the total number of casualties rather than the number of deaths should be the criterion by which we should judge the seriousness of this situation."

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Deaths increased during the year by one per cent with 400 more reported than in 1959. There were, however, 208,000 more injuries than was the case a year ago.

The Travelers report continued: "Thus, while deaths from motor vehicle accidents remain fairly stable, within a few hundred each year, injuries continue to mount with alarming rapidity, topping 3,000,000 annually for the first time in 1960."

"It must be remembered," says the report, "that the apparent leveling off of the number of deaths has come about, not because of motorists but in spite of them. More than 80 per cent of personal injury accidents still involve driving violations and the fact that deaths have not risen sharply in recent years is due largely to better and more prompt medical care rather than care on the part of the drivers."

### More Statistics

Life expectancy in the United States is up from 47 years in 1900 to 70 in 1959.

Cost of pneumonia in 1940, three months' wages of average man for hospital bill. In 1959, five hours' wages for medicine and a few days in bed at home.

Polio 85 per cent decrease over 1940.

Diphtheria, 16,000 persons stricken in 1946, and fewer than 1,000 in 1959.

Fifty thousand deaths from tuberculosis in 1945, a fourth as many in 1959.

Rickets, scurvy, scarlet fever, infant diarrhea — almost gone.

Seven thousand children died from whooping cough in 1940, and 310 in 1959.

### Working-Life Expectancy Rises By One-Third Since 1900

One of the most important results of medical progress in this century has been a large increase in the average American's working-life expectancy, Health Information Foundation reported.

In the April issue of its monthly statistical bulletin, *Progress in Health Services*, the Foundation pointed out that an American male baby born in 1958 had a working-life expectancy of 42.3 years — 11.2 years over the comparable figure for a baby born in the 1900-02 period.

In terms of manpower potential, the H.I.F. report stated, "a group of 100,000 males born in 1900-02 could expect to put in an average of 3,106,000 man-years of



work during their lives. By 1939-41 the comparable figure was 3,815,000 man-years, and by 1958 it was 4,228,000. Thus the working-life expectancy in man-years of a group of 100,000 male infants has risen by over one million since 1900-02, or by about one-third."

Not only do American males today have a longer working lifetime, but they can also expect to spend more years *outside* the labor force. The average number of non-working years for males increased from 16.8 in 1900-02 to 24.1 in 1958.

### **Rusk Is Peace Corps Medical Care Advisor**

Medical assistance, malaria eradication and disease-preventive measures will have high priorities in prospective missions of the Peace Corps, according to report submitted to President Kennedy by program director, Sargent Shriver. His principal consultant on health and medical care needs will be New York's Dr. Howard Rusk, who served in parts of the Truman and Eisenhower Administrations as chairman of Health Resources Advisory Committee. (WRMS Mar. 13, 1961)

### **Radiation Can Replace Surgery For Some Ulcer Patients**

The substitution of radiation therapy for surgery in patients with complicated duodenal ulcer has produced encouraging results, it was reported.

Drs. Harold C. Klein and Norman E. Berman, Cleveland, said 39 of 50 patients treated with radiation were "cured" of their ulcer disease. Of the remaining patients, they said, five were able to avoid surgery while six were not benefited and underwent operations.

Following radiation treatment, no diet restrictions were imposed or medication given, the two physicians said in reporting their findings in the April 15 *Journal of the American Medical Association*.

### **"Medical Care" Takes Sharpest Rise In Index**

Labor Dept. monthly report revealed that in February "Medical Care" went up to 159.4 (1947-49=100), a rise of 0.6 per cent — highest of any other category (food, shelter, apparel, etc.). Increases in professional fees, hospitalization insurance and room rates were cited, with drugs and prescriptions continuing in decline. (WRMS Mar. 27, 1961)

### **Confirmation Of Cohen Bears "1-Vote" Smirch**

The thin line of opposition to Wilbur J. Cohen, fully realizing it could not prevent his confirmation as Assistant Secretary of HEW, nevertheless succeeded last week in placing what could be an indelible stain on this White House appointment when it was taken up by Senate. Floor action on the nomination had been postponed two weeks by Democratic leadership as a courtesy

to Senator Carl Curtis (R., Neb.), who said he wanted time to work up a speech. Finally he said last Thursday would be agreeable, a day when the Senate was scheduled to hold only a brief session and most of its members were at home, out of town or attending a luncheon for Prime Minister Macmillan.

Senator Curtis delivered his critical speech, directed against Cohen's liberal views on social security policy. A Republican colleague, Senator John J. Williams (Del.), followed up with a call for a division (standing) vote in which names are not recorded. There were four votes for confirmation, three against. Democratic Senators Mansfield and Humphrey bitterly denounced the tactic that made it appear Cohen's nomination barely squeezed through a 100-member body.

Those who voted for Cohen, all Democrats, were Mansfield, Humphrey, Smathers and Holland. Those opposed were Curtis, Williams and Aiken. Had her vote been needed, Senator Maurine Neuberger (D., Ore.), who was presiding at the time, would have cast it for the controversial appointee. (WRMS Apr. 10, 1961)

### **Callup Order Set For Doctors Facing Draft**

Administrative delays kept the Defense Dept. requisition for 250 physicians from reaching Selective Service HQ last week, but local draft boards already are on alert to seek out vulnerables. As stated last week by WRMS, virtually all picks will be made from interns. Under-26 will be No. 1 priority (married or unmarried), then fathers and then men in older age brackets. All 250 places are in Air Force. (WRMS Mar. 27, 1961)

### **GAO Hits Revenue Loss By Federal Institution**

The General Accounting Office — watchdog of the U. S. Treasury — last week sent to Congress and White House a lengthy report detailing deficiencies of D.C. General Hospital in its collection and admission practices. Previously the GAO has cited laxity on part of Veterans Administration in billing and collecting from insurance companies and certain others. Latest report calls for numerous reforms by D.C. Department of Health and D.C. Board of Commissioners.

Other new publications: "The Costly Time Lag," a PHS brochure on penalties for failure to utilize medical research findings; two more monographs (Series C, Nos. 5 and 6) in National Health Survey series on selected health characteristics by urban-rural and large metropolitan areas. Single copies available from Public Health Service. (WRMS Apr. 10, 1961)

### **Schizophrenics Identified By Blood Chemistry**

Schizophrenia can be identified in a significant number of cases on the basis of a blood test, six Detroit researchers reported.

Schizophrenia is a severe mental disorder and the most common form of mental illness. It involves a loss of contact with reality and disintegration of the personality.

Writing in the current *Archives of General Psychiatry*, the researchers said they had made studies which "demonstrated that schizophrenic patients could be differentiated from nonschizophrenic subjects biochemically in a significant number of cases."

The study lends support to previous reports implicating a blood factor as significant in producing a disturbance of the body's metabolism, or chemistry, in schizophrenia, the authors said.

The significance of the findings in the development of schizophrenia is not known, they said. The chemical differences found in schizophrenics may be purely a phenomenon secondary to a complex disease process, they said, but on the other hand, may represent an important factor associated with the symptoms of the illness itself.

Further investigations are underway to delineate the importance of these chemical factors in the schizophrenic process, they said. These include efforts to isolate the blood factor involved.

The same investigators confirmed results obtained with a group of schizophrenics at the Lafayette Clinic, Detroit, with a similar study of another group at the National Institute of Mental Health, Bethesda, Maryland.

### Statement By Chairman

Between 1938 and 1960, Congress appropriated about \$1.6 billion to National Institutes of Health, said Senator Humphrey. He added: "This overall total is about the amount which Dept. of Defense has spent in the last two fiscal years in research and development projects which it has canceled before finished hardware was produced. In other words, for the sound goal of national security, the U. S. government spent in only two years for implements of destruction which were abandoned before a model was finished or tested as much as it spent in the last 22 years for research which has enriched all 180 million Americans, the entire human race and generations unborn."

While the detailed report makes no legislative recommendations, Senator Humphrey appeals for greater emphasis on preventive medicine as a step toward curtailing the costs of institutions and their maintenance. Note: Single copies of Senate Report No. 142 may be obtained upon request to Senate Document Room, U. S. Capitol. (WRMS Apr. 10, 1961)

### Bold Program Proposed In Heart/Cancer Drive

Members of President's Conference on Heart Disease

and Cancer, meeting in Washington Saturday, received from Senator H. H. Humphrey (D., Minn.) a 10-point program of suggested action. How many of the Senator's recommendations find their way into the report which the Conference will soon submit to President Kennedy can only be surmised. Status of the assistant majority leader as a dynamic leader in the health field is assurance his proposals will receive serious consideration. They are:

(1) Mobilize funds and other resources to achieve maximum application of present knowledge in prevention and control of cancer and heart disease; (2) Federal initiative to improve medical communications by greater utilization of electronic data processing; (3) creation of post of Assistant Secretary of Dept. of HEW for International Affairs; (4) increased government funds to support international travel by medical scientists.

(5) Stronger and more generous support by USA of intergovernmental and international organizations; (6) appointment of a consultative study group on international exchange of medical audiovisual materials; (7) let this country, through World Health Organization, encourage establishment of regional health centers in other lands.

(8) Larger appropriations to promote biomedical instrumentation; (9) government financial support of regional rehabilitation centers; (10) establishment — with Federal aid — of regional centers of biomedical research to function as university-affiliated hubs of research and education in the life sciences.

Except for (3) above, substantive legislation is needed for none of the Humphrey proposals. All demand money in large quantities, however, and that won't come easy. (WRMS Apr. 17, 1961)

### Leading Diagnoses And Reasons For Patient Visits

During 1960, almost one out of every five contacts between U. S. patients and physicians in private practice did *not* involve actual sickness or injury. Figures released by the National Disease and Therapeutic Index (N.D.T.I.), a continuing statistical survey of private medical practice, attributed 18% of all patient visits to special conditions without sickness. Prominent among these special conditions were prenatal care, inoculations and various examinations. In total they accounted for more trips to the doctor than either of the two leading disease categories, respiratory and circulatory disorders. N.D.T.I. results point up a major role of the American physician in maintaining the good health of "well" patients. N.D.T.I. collected data from approximately 2700 doctors during 1960. The study estimated a grand total of 972 million individual diagnoses were made by physicians for private patients in the U. S. last year.



# Maine Medical Association

## Program-in-Brief — 108th Annual Session

The Samoset — Rockland, Maine

Sunday — Monday — Tuesday

June 18, 19, 20, 1961

### Sunday, June 18

10:00 A.M. First meeting of the House of Delegates

12:30 P.M. Luncheon

3:30 P.M. Second meeting of the House of Delegates

6:30 P.M. Dinner

Speaker: MAX FRANKEL, New York Times Correspondent

Subject: **The Expanding Soviet Sphere**

3:00 P.M. Panel On Trauma

**That Important First Hour**

4:00 P.M. Election of President and President-Elect

6:30 P.M. Annual Banquet

Speaker: LLOYD H. ELLIOTT, President University of Maine

Subject: **A Medical School for Maine**

### Monday, June 19

9:30 A.M. to 12:00 NOON

9:30 A.M. **Film on External Cardiac Massage**,  
(Smith Kline & French Laboratories)

Scientific Program

10:00 A.M. **The Doctor in Space**

COLONEL JOHN P. STAPP, M.C., USAF Aerospace Medical Center, Brooks Air Force Base, Texas

11:00 A.M. **Immunity and Cancer**

H. JACK GEIGER, M.D., Harvard University Medical School, Department of Preventive Medicine

12:00 NOON to 2:00 P.M. Luncheon

2:00 P.M. to 4:00 P.M.

Scientific Program Sponsored by the Maine Chapter, American College of Surgeons

2:00 P.M. **Organization of Emergency Medical Facilities**

PAUL A. SKUDDER, M.D., New York Hospital, New York City

### Tuesday, June 20

9:30 A.M. to 12:00 NOON

9:30 A.M. **Film on Mental Retardation**

Presented by PETER W. BOWMAN, M.D., Superintendent of Pineland Hospital and Training Center

10:00 A.M. **The Pelvic Pain Syndrome**

HOWARD C. TAYLOR, JR., M.D., Columbia University College of Physicians and Surgeons

11:00 A.M. **Cancer is Curable**

CHARLES F. BRANCH, M.D., Pathologist, Central Maine General Hospital, Lewiston, Maine

12:00 NOON to 2:00 P.M. Luncheon

2:00 to 4:00 P.M.

Program sponsored by the Maine Medico-Legal Society

**The Investigation of Sudden, Unexpected, Suspicious and Violent Death in the City of New York**

MILTON HELPERN, M.D., Chief Medical Examiner of the City of New York

6:30 P.M. Clam Bake

## SPECIALTY GROUP MEETINGS

### Monday, June 19

2:00 to 4:00 P.M.

Maine Society of Anesthesiologists

#### **Sudden Cardiac Collapse**

STEVENS J. MARTIN, M.D., Hartford, Connecticut

Maine Society of Pathologists

#### **Chromosomes**

GEORGE YERGANIAN, M.D.

M.M.A. Eye Section

#### **Problems in Strabismus**

EDWARD A. DUNLAP, M.D.

Maine Chapter of the American Academy of Pediatrics

#### **Subdural Effusion in Infancy and Childhood — Current Concepts**

PHILIP DODGE, M.D., Massachusetts General Hospital

### Tuesday, June 20

10:00 A.M. Maine Medico-Legal Society Annual Business Meeting

2:00 to 4:00 P.M.

Maine Society of Obstetrics and Gynecology

#### **Adenocarcinoma of the Ovary**

HOWARD C. TAYLOR, JR., M.D.

Maine Society of Internal Medicine and the Maine Society of Non-Surgical Specialists

#### **Problems of the Internist**

STEWART P. SEIGLE, M.D.

Maine Society of Clinical Hypnosis

#### **Films: Hypnosis in a Case of Thyroidectomy, Hypnosis in Obstetrics**

Maine Thoracic Society

HADLEY PARROT, M.D., Chairman

### Luncheon Meetings

### Tuesday, June 20

Maine Chapter American Academy of General Practice

Maine Radiological Society

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## SPECIAL NOTICES

### **Election of President And President-Elect**

The election of a President and President-Elect will take place at the General Assembly, June 19 at 4:00 P.M.

### **Election Of Councilors**

Election of Councilors for the following Districts will take place at the Second meeting of the House of Delegates on Sunday, June 18 at 3:30 P.M.

Fifth District — Hancock and Washington Counties

Sixth District — Aroostook, Penobscot and Piscataquis Counties

### **House Of Delegates**

The Order of Business for the meetings of the House of Delegates will include final action on the Budget for 1962 and other matters presented at the Interim Meeting of the House and published in this issue of the Journal, page 161.

### **Golf Tournament**

DANIEL R. SHIELDS, M.D., Chairman

### **For The Ladies**

A special program is being arranged by the members of the Woman's Auxiliary to the Knox County Medical Society.



# From the Secretary's Notebook

## Summary Of Proceedings, Interim Meeting, M.M.A. House Of Delegates, April 16, 1961 At Brunswick, Maine

1. Called to Order at 2:30 P.M. by James A. MacDougall, M.D., Council Chairman, Acting President-elect.
2. Roll Call — There was a total attendance of 53 including delegates, alternates, councilors, committee chairmen and guests.
3. Announcement of the following members appointed by the Acting President-elect to serve on the Nominating Committee in accordance with the By-Laws, Chapter IV, Section 5:
  - 1st District — David K. Lovely, M.D., Portland — Chairman
  - 2nd District — Ross W. Green, M.D., Auburn
  - 3rd District — Richard I. Clark, M.D., Bath
  - 4th District — Lorrimer M. Schmidt, M.D., Togus
  - 5th District — James H. Crowe, M.D., Ellsworth
  - 6th District — Linus J. Stitham, M.D., Dover-Foxcroft

The report of the Nominating Committee shall be the first Order of Business at the Second Meeting of the House of Delegates on Sunday, June 18 at 3:30 P.M. at The Samoset, Rockland, Maine.

4. Presentation of statement of Income and Expenditures and proposed budget for 1962 as drawn up by the Council.\* Final action on the budget will take place at the meeting of the House of Delegates in June.
5. Amendment to By-Laws proposed by Committee on Recruitment, Aid and Placement by adding thereto the following:

Chapter VII-A. Medical Education Foundation. The Association may receive, hold, and disburse, strictly in trust however for the purpose hereinafter provided, contributions to a fund to be known as the Maine Medical Education Foundation, said fund with all additions and accretions thereto to be devoted to the granting of loans to promising students of Medicine, for the purpose of Medical education.

Subject to the supervision and approval of the Council, the Committee on Recruitment, Aid and Placement shall administer said fund and make rules and regulations therefor not inconsistent with this By-Law.

Said fund, being held in trust, cannot and shall not be used for the general purposes of the Trustee, Maine Medical Association, or for any purpose except as in this By-Law above provided. In event of the dissolution of the Trustee Association, any remaining assets held by the Maine Medical Education Foundation,

subject to the jurisdiction of the Court, will be distributed to organizations which have been granted exemption under Section 501 (c) (3) of the 1954 Internal Revenue Code.

Said funds and all accretions thereto from interest received or otherwise are and shall be received strictly in trust for the purposes herein provided, and forever held and administered by the Association as Trustee entirely separate from its general and any other funds, and shall not be available to satisfy the debts of the Trustee Association.

6. Recommendations proposed by Health Insurance Committee:
  - a. That M.M.A. Group Insurance Plan be changed to Blue Shield "C".
  - b. That provisions be made in order to cover "over-age 19 dependents."
  - c. That major medical coverage be available through B. S. in connection with Phoenix Insurance Company.

Copy of these recommendations has been presented to each county secretary.

(Items 5 and 6 will also be on the agenda for the House of Delegates in June).

7. Resolution proposed by the Cumberland County Medical Society relative to the appointment of a committee to study the distribution of physicians in the State of Maine in respect to the need for reapportionment of the councilors of the Maine Medical Association and that this committee make a recommendation to the House of Delegates at the June, 1961 meeting regarding the desirability of reapportionment of councilors. A motion that this resolution be approved was defeated.
8. Brinton T. Darlington, M.D., Chairman of the Legislative Committee, presented a brief report relative to matters of interest to the medical profession being presented at the Legislative Session. He stressed particularly Legislative Document No. 1000, "An Act relating to Chiropractic Treatment Under Workmen's Compensation Law."\*
9. George J. Robertson, M.D., Chairman of the Committee on Aging, spoke relative to the White House Conference on Aging and stated that a complete report would be presented in June.
10. William E. Schumacher, M.D., Director, Bureau of Mental Health, State of Maine Department of Mental Health and Corrections, discussed departmental procedures and the proposed legislation relative to Hospitalization of the Mentally Retarded.

\*Copy to Councilors, Delegates and Alternates with copy of this summary following Interim Meeting.



DEAN H. FISHER, M.D.  
COMMISSIONER

## State Of Maine

# Department of Health and Welfare

## 27th New England Health Institute

Maine will play host to the 27th New England Health Institute June 11-14, 1961 at Colby College, Waterville. In keeping with the changing aspects of current health problems which are becoming increasingly concerned with social factors, the Institute Program Planning Committee this year selected as the central theme for the Institute: "Charting a Forward Course in Health and Welfare — Anchors Away!" The "anchors" are seen as symbolic of the barriers which often serve as deterrent to optimum accomplishment in the carrying out of services for the community and the individual. The focus of the several sections comprising the program will be that of maximum integration of health and welfare services.

The Institute will start on Sunday afternoon, June 11, with registration, and hold its opening general session at 8 o'clock that evening, featuring a speaker well-qualified to discuss the broad approach to the overall subject.

An outline of the preliminary program follows:

### 8:00 P.M. — Sunday, June 11, 1961 — Given Auditorium

Presiding: Dean H. Fisher, M.D., Commissioner, Maine Department of Health and Welfare

Invocation:

Greetings from The Hon. John H. Reed, Governor of the State of Maine

Address: "Charting A Forward Course in Health and Welfare — Anchors Away!"

Speaker: Kenneth R. Pohlmann, Health Commissioner, Medical, Health and Hospital Service, United Mine Workers of America Welfare and Retirement Fund, Washington, D.C.

Reception: An informal reception will follow the address.

### Monday Morning, June 12 — GENERAL SESSION

9:00-10:00 Address: "Charting a Forward Course in Health and Welfare — Public Health and Medical Implications" W. Fred Mayes, M.D., M.P.H., Medical Director, Chief, Health Administration Branch, Division of Community Services, Public Health Service, Department of Health, Education, and Welfare, Washington, D.C.

10:30-Noon INSTITUTE ORIENTATION for all Sections — Lovejoy Hall

(Sections on Family Care; Environmental Health; Chronic Diseases will run concurrently — workshops and panels.)

*Family Care Section* Co-Chairmen: Mary M. Sullivan, R.N., Director, Division of Public Health Nursing, Department of Health and Welfare, State of Maine

Albert F. Hanwell, Director, Division of Child Welfare, Department of Health and Welfare, State of Maine

Section leader: Miss Sullivan

Workshop sub-areas:

"Adoptions and Services to Unwed Parents"

Leader: Mrs. Alberta DeRange, Medical Social Work Consultant, Division of Maternal and Child Health, Connecticut State Department of Health, Hartford, Conn.

"Family-Centered Medical Care and the Public Health"

- a. Preventive, therapeutic, rehabilitative
- b. Personal and public responsibilities

Leader: Pauline G. Stitt, M.D., Associate Professor of Preventive Medicine and Pediatrics, Chief, Home Medical Services, Massachusetts Memorial Hospital, Boston, Massachusetts

"Protective Services for Children and Foster Care — Children and Adults"

Leader: Louise Noble, Regional Child Welfare Representative, Children's Bureau, Social Security Administration, Department of Health, Education, and Welfare, Boston, Massachusetts

Assisted by: Miss Barbara Farnham, Veterans Administration Center, Togus, Maine

"Homemaker Services and Day-Care Services"

Leader: Mrs. Ruth Snyder, Director, Homemaker Services, Department of Public Welfare, New York City  
Catherine O'Connell, Director, Day-Care Services, Department of Public Welfare, New York City

"Mental Health Services"

- a. Prevention of Family Breakdown
- b. Preventive therapy including rehabilitation of the mentally ill

Leader: James E. Baker, M.D., Medical Department, Veterans Administration Center, Togus, Maine

### *Chronic Disease Section*

Co-Chairmen: Pauline Smith, Director, Division of Public Assistance, Department of Health and Welfare, State of Maine

Brinton Darlington, M.D., Physician Member, Medical Review Team, Department of Health and Welfare, State of Maine

10:30-Noon ORIENTATION OF PANELS — Lovejoy Hall  
Panel No. 1 "Coordinated Approach to the Ill Person in the Home"

Leader: Jerome S. Tobis, M.D., Professor and Chairman, Department of Physical Medicine and Rehabilitation, New York Medical College, Flower and Fifth Avenue Hospital.



Miss Elizabeth Phillips, Executive Director, Visiting Nurse Service, Rochester, New York

Mrs. Lucille Smith, Chief, Health Service, Organizational Branch, Division of Public Health Methods, Public Health Service, Department of Health, Education, and Welfare, Washington, D.C.

Panel No. 2 "Coordinated Approach to the Ill Person in the Institute"

Leader: Leslie W. Knott, M.D., Chief, Division of Chronic Diseases, Public Health Service, Department of Health, Education, and Welfare, Washington, D.C.

Mrs. Virginia McGowen, Director of Social Service, Grasslands Hospital, Valhalla, New York

Lena M. Plaisted, Associate Professor, Boston University, School of Nursing, Boston, Massachusetts

Panel No. 3 "Rehabilitation for the Chronically Ill Person"

Leader: Michael M. Dasco, M.D., F.A.C.P., Director, Geriatric Rehabilitation Service, Goldwater Memorial Hospital, Associate Professor, Department of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, New York City

John J. Lorentz, M.D., Physician-in-Charge, Rehabilitation Institute, The Boston Dispensary, Boston, Massachusetts

Alice James, Associate Professor of Social Work, School of Social Service Administration, University of Chicago, Chicago, Illinois

Environmental Health Section — Lovejoy Hall

Co-Chairmen: Elmer W. Campbell, Dr. P. H., Director Division of Sanitary Engineering, Department of Health and Welfare, State of Maine

Stephen P. Simonds, Director, Bureau of Social Welfare, Department of Health and Welfare, State of Maine

10:30-11:15 Address: "Environmental Health — Changing Concepts"

11:15-11:35 "Changing Concepts related to Urbanization"

11:35-11:55 "Changing Concepts related to Accident Prevention"

11:55-12:15 "Changing Concepts related to Population Explosion"

### Monday Afternoon, June 12

2:00- 4:00 Workshop and panel sessions on "Environmental Health"

Laboratory Services Section — Lovejoy Hall

Panel: "Is There A Need for a Public Health Laboratory?"

Leader: Merle S. Bacastow, M.D., Director of Medical Education, Maine Medical Center, Portland, Maine

The Private Laboratory — H. L. Wollenweber, M.D., Clinical Pathologist, Baltimore, Maryland

The Hospital Laboratory — William Kaufmann, M.D., President, New England Pathology Society, Director, Pathology Laboratory, Springfield Hospital, Springfield, Massachusetts

The Public Health Laboratory — Morris Schaeffer, M.D., Director, Bureau of Laboratories, New York City Health Department.

Laboratory Training — Lawrence W. Slanetz, M.D., Professor of Bacteriology, University of New Hampshire, Durham, New Hampshire

4:00- 5:00 Tour of Exhibits

4:00- 6:00 Meeting: Alumni — Harvard School of Public Health

Speaker: Dr. Mayes, President

### Monday Evening, June 12

A lobster "clambake" with all the fixings at the Adult Recreation Center, Colby, situated on a nearby lake (Belgrade Region).

### Tuesday Morning, June 13 — GENERAL SESSION

Lovejoy Hall

9:00-10:00 Address: "Charting A Forward Course in Health and Welfare — Social Welfare and Rehabilitative Implications"

Speaker from the Social Welfare Field

10:30-Noon Workshops and panel groups continue with assignments — Family Care; Chronic Diseases Sections

*Environmental Health Section* — Lovejoy Hall

10:30-11:15 Address: "Environmental Health — New Approaches"

11:15-11:35 Discussants: "New Approaches related to Water Pollution"

11:35-11:55 "New Approaches related to Radiological Health"

11:55-12:15 "New Approaches related to Income Maintenance and Nutritional Standards."

### Tuesday, Afternoon, June 13

2:00- 4:00 Workshop sessions running concurrently for Environmental Health Section on subjects listed above; discussants of morning serving as workshop leaders. Brief meetings of other Sections for compilation of findings.

*Laboratory Services Section* — Lovejoy Hall

Panel: "The New Frontier in the Diagnosis of Infectious Diseases . . . Immunofluorescence"

Introduction: History and Principles of Immunofluorescence, Francis C. Lawler, Sc.D., Director of Laboratories, Department of Public Health, Burlington, Vermont

*Other Group Meetings* — Locations to be announced

Time has been arranged for the meeting of other groups who are coordinating with the Institute in this respect. Included among these are:

Special Meeting — State and Local Health Councils

Annual Meeting — Maine Rehabilitation Association

Regional Sanitarian's Association

New England Branch, State and Territorial Nutritionists' Group

Tour of Exhibits

### Tuesday Evening, June 13

Meeting — Health Council of Maine (Chicken Barbecue planned at Adult Recreation Center for all Institute Participants.)

This will be Dutch-Treat for which tickets will be sold at the time of registration.

### Wednesday Morning, June 14

8:00- 9:00 Commissioners' Breakfast

9:00-10:00 Summary Reports of Workshop and Panel Groups

10:00-11:00 GENERAL SESSION — Grand Finale

Address: "The Crisis in Health Education"

Iago Galdston, M.D., Executive Secretary, The New York Academy of Medicine, New York, New York

Advance programs, requests for reservations, or any other information concerning the institution, may be obtained from — Ruth T. Clough, Secretary, New England Health Institute, c/o Department of Health and Welfare, State House, Augusta, Maine

# Necrologies

PENRY L. B. EBBETT, M.D.

1881-1960



Penry L. B. Ebbett, M.D. of Houlton, Maine, a past President of the Maine Medical Association, died on October 23, 1960.

Dr. Ebbett was born in Lower Gagetown, New Brunswick on July 28, 1881, the son of Charles H. and Elizabeth Penry Ebbett. He attended Gagetown Grammar School and graduated at McGill University in 1903. Dr. Ebbett began his general practice in Houlton in 1903. He later moved to Hodgdon, and then returned to Houlton in 1918 where he practiced medicine until his death.

In 1953, Dr. Ebbett received a pin from the Maine Medical Association in recognition of his 50 years in the practice of medicine and a 55-year pin in 1958.

Dr. Ebbett had served as Councilor of the Maine Medical Association for the Sixth District before his election as President in 1941. He was a past President of the Aroostook County Medical Association, a member of the American Medical Association, a staff member of the Aroostook General Hospital and Madigan Memorial Hospital. He was also a member of Monument Lodge of Masons, Aroostook Chapter, St. Aldemar Commandry, Kora Temple, an honorary life member of the Houlton Lodge of Elks and in 1958 he received a Lions Club award.

Surviving are his widow, the former R. Luella Green of Houlton; one daughter, Mrs. Harry Baulch of Houlton; four grandchildren and seven great grandchildren.

NORMAN B. MURPHY, M.D.

1897-1961

Norman B. Murphy, M.D. of Augusta, Maine died at the Augusta General Hospital in Augusta on February 24, 1961.

Dr. Murphy was born in Augusta, Maine on April 11, 1897, the son of Charles Bernard and Nellie Ray Murphy. He graduated from Cony High School in 1915, the University of Maine in 1920 and Harvard Medical School in 1925. He interned at St. Mary's Infant Asylum, Carney Hospital, Boston, Massachusetts. During World War I, he served with the Milliken Regiment.

He began the practice of medicine in Augusta in 1927 and was a practicing physician in this area since that time except for serving with the Army Medical Corps during World War II in the European theatre. He was a member of the Surgical Staff of the Augusta General Hospital and was Chief of Staff in 1958.

Dr. Murphy was a member of the Maine Medical Association, Kennebec County Medical Association, the Society of Obstetrics and Gynecology, American Legion, St. Mary's Men's Club and a fourth degree member of the Knights of Columbus. He was Surgeon for the State School for Girls in Hallowell and a member of the Dirigo Medical Clinic since 1946.

Surviving are his widow the former Harriet Colgan; a son Norman B. Jr., Augusta; two daughters, Miss Rebecca and Mrs. Judith McGrail, Augusta; three sisters, Mrs. Dorothy Campbell, Augusta, Mrs. Madeline Soucy, Bangor and Mrs. Marion Dempsey, Massachusetts; two brothers, Anthony, Waterville, and Charles, Fairfield.

LUTHER S. MASON, M.D.

1873 - 1961



Luther S. Mason, M.D., 87, of Bangor, Maine, one of New England's oldest practicing physicians, died on March 20, 1961.

Dr. Mason was born in North Searsport, Maine on March 26, 1873, the son of Andrew J. and Elizabeth Smith Mason. He attended North Searsport schools, graduated from Bates College in 1896 and received his medical degree from the University of Pennsylvania in 1900. He served his internship at the Eastern Maine General Hospital in Bangor and was one of the first interns at the Eastern Maine General Hospital. From 1900 until his death he served the community of Bangor and was described by local medical men as the "dean of physicians" in this area.

Dr. Mason was an Honorary member of the Maine Medical Association and the Penobscot County Medical Society, having received a 50-year medal in 1950, a 55-year pin in 1955 and a 60-year pin in 1960. He was also a member of the American College of Surgeons.

He is survived by a sister, Sarah L. Mason of Bangor.



# County Society Notes

## ANDROSCOGGIN

March 16, 1961

The Androscoggin County Medical Association met at St. Mary's General Hospital in Lewiston on March 16, with 30 members present.

Dr. Horacio A. Lichter from the Central Maine General Hospital in Lewiston was elected to membership.

Dr. Harvey J. Proulx was elected as a delegate and Dr. Edward L. Reeves an alternate to the House of Delegates of the Maine Medical Association.

The speaker of the evening, Dr. Donald Coulton of Bangor, President-elect of the New England Society for Hypnosis, was introduced by Dr. George B. O'Connell. His subject was "Use of Hypnosis in Obstetrics." A lively question and answer period followed with a demonstration of the trance state being presented.

DONALD L. ANDERSON, M.D.  
*Secretary*

## PENOBSCOT

March 21, 1961

The March meeting of the Penobscot County Medical Society was held at the Tarratine Club in Bangor. There were 35 members present.

Dr. Thomas B. Quigley of the Peter Bent Brigham Hospital and Harvard Medical School, Boston, the speaker of the evening, was introduced by Dr. James D. Clement, Jr. Dr. Quigley presented a paper entitled: "Lessons Learned About Ankle Injuries From The Playing Field." The talk was illustrated with slides and proved to be very stimulating and of great interest.

Dr. Philip B. Thomas presided at the business meeting in the absence of the President, Dr. Richard C. Wadsworth and President-elect, Dr. Clement S. Dwyer.

The following members have been appointed as delegates and alternates to the Maine Medical Association:

Delegates: Paul W. Burke, M.D., Newport, Irvin E. Hamlin, M.D., East Millinocket, Arthur N. Lieberman, M.D., Bangor, Leonard G. Miragliuolo, M.D., Bangor and Charles D. McEvoy, Jr., M.D., Bangor. Alternates: Nelson P. Blackburn, M.D., Bangor, Hadley Parrot, M.D., Bangor, John J. Pearson, M.D., Old Town and William M. Shubert, M.D., Bangor.

A memorial resolution for Dr. Walter C. Hall of Orono was read to the society.

A Resolutions Committee consisting of Dr. Albert C. Todd, Chairman, Dr. Magnus F. Ridlon and Dr. Wilbur B. Manter was appointed to prepare Resolutions on the death of Dr. Luther S. Mason.

PHILIP B. THOMAS, M.D.  
*Secretary*

## CUMBERLAND

April 20, 1961

A meeting of the Cumberland County Medical Society was held at Valle's Steak House in Portland, Maine on April 20. After a social hour and dinner, the meeting was called to order by the President, Dr. Robinson L. Bidwell.

Dr. Harry Analis of Portland was elected to membership. Dr. Bidwell reported on the Interim Meeting of the M.M.A.

## COUNTY SOCIETIES

### ANDROSCOGGIN

President, Waldo A. Clapp, M.D., Lewiston  
Secretary, Donald L. Anderson, M.D., Lewiston

### AROOSTOOK

President, Frederick J. Gregory, M.D., Caribou  
Secretary, Clyde I. Swett, M.D., Island Falls

### CUMBERLAND

President, Robinson L. Bidwell, M.D., Portland  
Secretary, Albert Aranson, M.D., Portland

### FRANKLIN

President, Maynard B. Colley, M.D., Wilton  
Secretary, Philip B. Chase, M.D., Farmington

### HANCOCK

President, Charles H. Knickerbocker, M.D., Bar Harbor  
Secretary, Russell G. Williamson, M.D., Blue Hill

### KENNEBEC

President, Philip Dachslager, M.D., Augusta  
Secretary, Earle M. Davis, M.D., Waterville

### KNOX

President, Robert H. Eddy, M.D., Rockland  
Secretary, Mustafa V. Onat, M.D., St. George

### LINCOLN-SAGadahoc

President, George W. Bostwick, M.D., Newcastle  
Secretary, Richard I. Clark, M.D., Bath

### OXFORD

Secretary, Albert P. Royal, Jr., M.D., Rumford

### PENOBSCOT

President, Richard C. Wadsworth, M.D., Bangor  
Secretary, Philip B. Thomas, M.D., Bangor

### PISCATAQUIS

President, Odd S. Nielsen, M.D., Dexter  
Secretary, Isaac Nelson, M.D., Greenville

### SOMERSET

President, Paul R. Briggs, M.D., Hartland  
Secretary, Harland G. Turner, M.D., Norridgewock

### WALDO

President, Ward A. Albro, M.D., Belfast  
Secretary-Treasurer, Seth H. Read, M.D., Belfast

### WASHINGTON

President, Rowland B. French, M.D., Eastport  
Secretary, Karl V. Larson, M.D., East Machias

### YORK

President, Kenneth E. Leigh, M.D., York  
Secretary, C. W. Kinghorn, M.D., Kittery

House of Delegates held on April 16, 1961 at Brunswick. He explained further the special assessment of the membership for a medical student loan and scholarship fund and urged the members to support this very worthwhile project. The adverse action of the House of Delegates in regard to the resolution on study of the Council or Districts was also commented on. The inclusion of the cost of the monthly meetings of the county society in the yearly dues was discussed and approved by the membership. This will not go into effect until January of 1962 which is the beginning of the fiscal year.

Guests present included: Mr. Julian Orr, Portland City Manager; Dr. Boris Vanandzin, the new Health Officer of Portland; Dr. John Perri of the Public Health Service and Dr. Gerald Wagger of Fort Williams.

Mr. Orr spoke on the subject of Municipal Health Problems. He included a very clear and comprehensive description of the functions of the Health Department, as well as its various divisions.

Dr. Vanandzin gave a brief and interesting presentation concerning the field of public health.

ALBERT ARANSON, M.D.  
*Secretary*

### KENNEBEC

April 20, 1961

Thirty-five members were present at the Kennebec County Medical Association which was held at the Togus Veterans Administration Center in Togus.

Dr. J. Ramser Crawford of Augusta was elected to membership.

A memorial resolution was read for Dr. Norman B. Murphy.

Dr. Ralph A. Deterling, Professor of Surgery at Tufts University School of Medicine in Boston, spoke on his two recent trips to Russia and illustrated his remarks with colored slides. Dr. Deterling had observed surgical procedures in several Russian hospitals and had been able to discuss general medical situations with many prominent Russian surgeons and medical educators during a tour in conjunction with an international meeting of Thoracic and Cardiovascular Surgeons.

EARLE M. DAVIS, M.D.  
*Secretary*

### New Members

#### ANDROSCOGGIN

Horacio A. Lichter, M.D., Central Maine General Hospital, Lewiston

#### CUMBERLAND

Harry Analis, M.D., 902 Brighton Avenue, Portland

#### KENNEBEC

J. Ramser Crawford, M.D., 105 Water Street, Augusta

### Deceased

#### PISCATAQUIS

John B. Valentine, M.D., 9 E. Main Street, Dover-Foxcroft, May 6, 1961

#### YORK

Laura B. Stickney, M.D., 10 Cutts Avenue, Saco, May 4, 1961

## News, Notes and Announcements



On April 16, 1961 the unexpended receipts of the testimonial dinner for Dr. Daniel F. Hanley was presented to the Maine Medical Education Foundation to establish a scholarship fund in Dr. Hanley's name. Left to right in the picture are: Dr. James A. MacDougall of Rumford, acting president-elect of the M.M.A.; Dr. Paul H. Pfeiffer of Waterville, chairman, medical education committee; Dr. Carl E. Richards of Alfred, M.M.A. president; Dr. Hanley; Charles A. Wilkes, former chairman of the Brunswick board of selectmen and Robert L. Morrell, president of the Brunswick Area Chamber of Commerce.

### Bangor Physician Elected District Chairman Of Obstetricians

William M. Shubert, M.D. of Bangor, was elected Maine district chairman of the American College of Obstetricians and Gynecologists and Donald Coulton, M.D. of Bangor, was elected Maine vice chairman at the annual meeting in Bal Harbour, Florida on April 19, 1961.

### Ninth Annual Conference On Disaster Medical Care

"Defense Training for All — A Resource for National Defense" has been set as the theme for the ninth annual Conference on Disaster Medical Care in New York City, Saturday, June 24.

Sponsored by the American Medical Association's Council on National Security, the theme of the one-day meeting at the Statler-Hilton Hotel will be developed by the United States Air Force Medical Service.

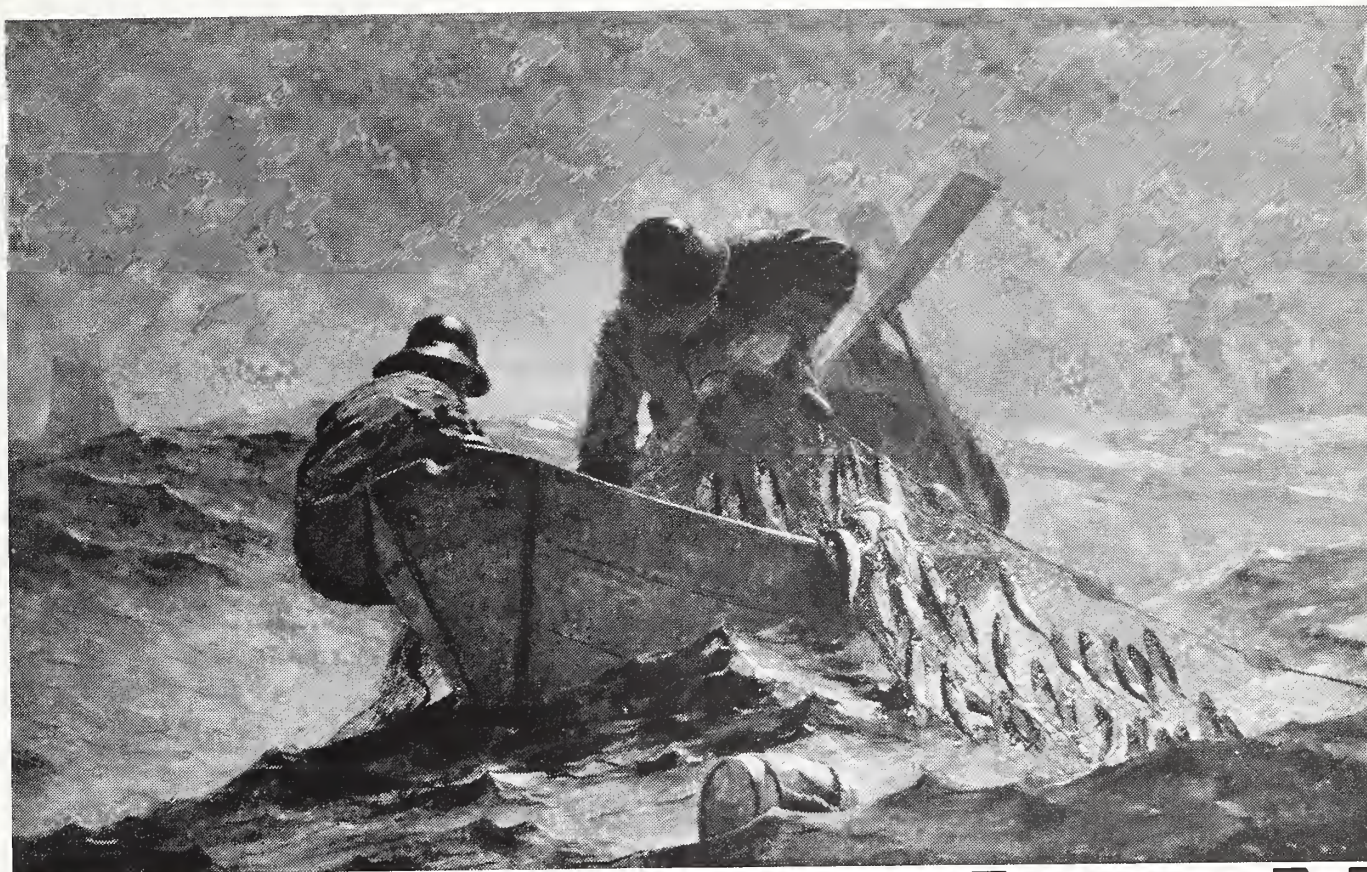
Following opening remarks by Dr. Leonard W. Larson, Bismarck, N. D., A.M.A. president-elect, Maj. Gen. O. K. Niess, surgeon general of the Air Force, will discuss the adaptability of military medical experience, research, and operations in civilian disasters.

### A.M.A. To Stage Big "World's Fair" Of Medicine In New York In June

The American Medical Association's 110th annual meeting, the "world's fair of medicine," will bring an estimated 50,000 persons, including 25,000 physicians, into New York City, June 25-30.

The five-day convention, biggest of its kind in the world, will attract not only doctors, but also their wives and families as well as residents, interns, exhibitors; in fact, people connected with all the allied fields of medicine. Hence, the convention theme: "Teamwork in Medicine."



*Winslow Homer "THE HERRING NET" Art Institute of Chicago.*

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SEARLE



Technical exhibits, numbering 827 and displaying everything from medical books to diapers, and more than 350 scientific exhibits largely developed, designed, and manned by physicians reporting their research, will take up practically every inch of space on all four floors of New York's big Coliseum.

### Pre-Convention Session On School Health

The third Pre-Convention Session on School Health will be held at 7:30 p.m., Sunday, June 25, 1961, at the Park Sheraton Hotel in New York City. The theme for discussion will be "Health of the School Personnel."

Physicians, nurses, and educators concerned with school

health will find the discussion particularly significant at this time. Schools are under the spotlight of examination as they have never been before; the teachers and other personnel with poor mental or physical health, as well as those who bring strength to the service of teaching, are judged as examples of the caliber of school programs.

What are the health hazards of school employment? Who should plan the preventive program? What are the recommended methods of screening? It is with hope the discussion will answer these and other questions.

The evening's speakers will be: Lemuel C. McGee, M.D., president of the Delaware Medical Society and member of the AMA Council on Occupational Health; Gerhardt Rast, Ph.D., school administrator; Mrs. Doris Field, school nurse and George L. Cushman, M.D., family practitioner.

The meeting is opened to everyone interested in the problems of school health.

**Charles G. Platt, C. L. U.**

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# The Journal of the Maine Medical Association

Volume Fifty-Two

Brunswick, Maine, June, 1961

No. 6

## Nursing Education, Maine, 1961

GEORGE O. CHASE, M.D.

Do you think doctors should participate in nurses education?

Yes	280
No	12
No opinion	8

This was the pattern of responses to question number 7 of the opinion questionnaire circulated last fall among Maine's physicians and alluded to in a recent article in *The Journal of the Maine Medical Association*. Thus resoundingly affirmed, is an impression gained in numerous bull sessions and private chats. And that is that doctors in Maine, as indeed they must be everywhere, are almost unanimously vitally and personally interested in nursing education. Eighty-three physicians responding expanded their opinions on nursing education with comments, many of which indicated conflicting points of view. For example:

"Every young girl should be encouraged to take the five year course for a degree."

"Only superior girls who will probably be full time should be encouraged to become professional nurses with degrees."

"I feel that current nurse education will improve nurse supply."

"(Current nurse education) is obviously the direct cause and major factor in the shortage."

"Selection of candidates not rigid enough."

"I think standards for nursing have become too high."

"Physician participation in but not control of nursing education standards, licensing etc."

"Doctors should have total supervision of nurse education."

However, a considerable majority felt that something ailed nursing education and held opinions paraphrased in this way:

1. Too much stress on scientific matter and not enough on bedside care with resulting over-education.

For example: "Keep the student nurse with the patient, not in books six hours a day."

2. Too little involvement of physicians in the educational program.

For example: "They never call on us to teach any more."

3. Too high standards imposed by unrealistic accreditation programs.

For example: "There is considerable lack of realism between recommendations for accreditation and the practical and pragmatic education of non-university nursing school students."

It seemed to a physician who is a part-time, and at least partially fledged, member of a nursing school faculty, that these criticisms were invalid. It seemed that there is no such concept as "over-education" of a professional person; it seemed that most of the educational process was in fact evolving at the bedside. It seemed that physicians were in fact still making a significant contribution. It seemed that if one accepts the principle involved in national accreditation, that it is a kind of professional conscience for which there is no effective substitute on the state or local level (compare Joint Commission activity); then high standards are to be desired, and they are not unattainable even in Maine.

The latter opinions are held by an insignificant minority to be sure. However, one contribution this minority can make is to review the facts of nursing education, with the intent of filling informational gaps and correcting conceptual or factual misapprehensions. With this objective, brief interviews were held with directors of schools of nursing and the bulletins of their schools studied.

## NURSE EDUCATION PROGRAMS

There are in the United States today three programs which prepare professional nurses. These are the associate degree programs, hospital diploma programs, and the baccalaureate degree programs.

The associate degree program is conducted in a junior or community college with a two-year structure, with those courses directly concerned with nursing conducted by qualified nursing education faculty. Parts of the nursing courses are conducted in clinical areas so that the associate degree holder in nursing can undertake beginning positions in general duty nursing and can qualify for registry examinations.

Diploma program is conducted by a school with no other purpose than to educate nurses, and is under the control of a hospital or other non-collegiate authority. Other resources, for example, local colleges, may be utilized in some phases of the curriculum, but the faculty of the school maintains supervision over the experience of the student in classroom and clinical laboratory. In these programs the primary focus of instruction of clinical practice is on the nursing care of patients in the hospital. Students who have qualified to take the registry exams and become licensed professional nurses are ready to undertake general duty nursing. Over 80% of all persons enrolled in nurse education are in diploma programs.

Baccalaureate degree programs are not to be confused with arrangements made by colleges or universities so that diploma or associate degree holders in nursing can qualify for a baccalaureate degree. The baccalaureate degree program is an educational unit of a college or a university, subject to the standards and controls exerted by the institution over all its units. Faculty members are faculty members of the institution and the educational program structure is planned by the nursing faculty-staff members who are, in the main, professional nurses. It is a four year program, usually with a large part of the nursing courses in the last two years. These nursing courses are as in the diploma programs, focussed primarily on nursing care of patients in a hospital. Students are qualified to receive academic baccalaureate degrees and take registry exams. Although they are advised to undertake general duty nursing for a year or more because of the necessary seasoning in clinical practice, they are probably better prepared because of original endowments and broader background for subsequent supervisory and educational responsibilities.

## MAINE SCHOOLS

There are five diploma schools in Maine at the Maine Medical Center and Mercy Hospitals in Portland, St. Mary's Hospital and Central Maine General Hospital in Lewiston, and Eastern Maine General Hospital in Bangor. All are approved by the State Board of Nursing and three are approved by the National League for Nursing, a national organization of nurses, educators,

hospital administrators, physicians, and lay people. A significant amount of the activities of this organization are in the area of consultation and advisory services to nursing educational institutions. There are no associate degree programs in Maine and one baccalaureate degree program is operated at the University of Maine in Orono.

## TUITION CHARGES

At least one physician felt that the source of supply of nurses was somewhat choked by high tuitions. Full charges for the entire three years in the five diploma schools in Maine range from \$600.00 to \$875.00 with an average of \$716.00, or slightly over \$200.00 per year. This is certainly not burdensome. It is, in fact, as someone has remarked, considerably cheaper than you can feed them at home.

However, money does have an influence on supply, almost certainly. About five years ago a number of studies of the cost of maintaining a nursing school were undertaken. Special reference is made to the Newport Rhode Island Hospital, Mary Fletcher Hospital at Burlington, Vermont, and the Maine Hospitals. Although differing somewhat in the formulae used for evaluation of the student nurses service rendered to the institution, all show an operating deficit for the nursing school ranging from \$600 to \$1100 per student per year. In Maine, the figure arrived at was \$800 per student for a year, or about \$500,000 per year, a burden borne by the patients in the five hospitals with schools.

Four of five directors indicated that their clinical facilities were not being fully exploited. Obstacles in the path of increasing enrollment were financial, according to three. Not only were trustees not anxious to increase the operating deficit, but the cost of additional student quarters, classroom space, and faculty persons, was prohibitive.

## ENROLLMENT

For the current year 684 students are enrolled in Maine nursing educational facilities. In 1931 there were 730 students enrolled in twenty-four institutions then conducting schools. In 1954 seven facilities were approved and had an enrollment of 699. It is thus apparent that the consolidation of facilities has not materially affected the enrollment. However, the trend is downward, and should be upward in the face of broadening health field activities and increased demand. Financing plays a part in this, as already indicated. Some experts feel that a more effective recruiting program is necessary. Some Maine doctors feel that more nursing schools in the smaller hospitals would be an answer.

The drop out figures are interesting. Over the past five years for the five diploma schools, these range from 22% to 31% with an average of 27%. Thus, nearly a third of the entering students do not graduate, and this attrition rate is an unfortunate dissipation of the diploma school's efforts. This phenomenon has been exten-



TABLE I

Institution	CLASSROOM HOURS			Weeks in Classroom	Weeks on Vacation	Weeks at Bedside Practice	% Total Time in School at Bedside*
	Biological and Physical Science Courses	Nursing Courses	Social Sciences				
A	285	1092	218	40	10	106	72%
B	370	970	215	39	12	105	73%
C	240	1020	240	37.5	10	108.5	74%
D	306	870	228	35	12	109	75%
E	313	1111	268	42	10	104	71%

Three year Curriculum planning in five diploma schools in Maine

\*Exclusive of vacation time

sively studied. Many reasons are offered. It is possible that recruitment methods do not provide the entering student with a realistic appraisal of what is in store. Perhaps the current favorable economic status of our people generally, with feasible early marriages, is a factor.

#### CURRICULUM

1. "Too many classroom hours, not enough bedside care."
2. "Nurse education emphasizes science requirements too highly."

These comments indicate rather widely held opinions among doctors. Examination of the curriculum does not seem to bear them out, however. In Table I, the courses of the five diploma schools are categorized and the hours allotted are summarized. The students are active either in classroom or at the bedside for a total amount of time which averages 40 hours per week over the three year period. The remainder of the table shows the division of 156 weeks among classroom time, vacation time, and bedside practice time. The latter is both under direct and indirect supervision. Well over half of the time spent by students at the bedside is indirectly supervised, thus fostering the development of independent responsible action.

#### M.D. AS NURSE EDUCATORS

Returning to the questionnaire, interesting responses were obtained to question number five — do you think doctors should supervise nurse education? The replies

Yes	165
No	113
No opinion	22

A slight majority favored M.D. supervision of nursing education. In elaboration, some commented in this wise:

"I think doctors should supervise nursing education in all phases."

"Doctors should have total supervision of nurse education."

"We made our mistake by not supervising nurse education from the start."

"The doctor should determine subject matter taught, time allotted to basic courses, and the amount of time devoted to bedside nursing."

With all due respect to these considered opinions, it must be declared in all honesty that there are very few physicians with the time or inclination to undertake the duties which the above expressed ideas imply. Who will sit for hours in faculty meetings, sweating over schedules and time charts to guarantee that the student gets sufficient exposure in each area to be a good general duty nurse? Who will examine texts to select the most useful ones? Who will take the time to review applications from prospective students to insure that the best candidates are chosen?

In all candor, physicians taking such a stand as suggested by the quoted comments, are ready to assume a lion's share of the authority, but have no intention of assuming the responsibility to the students, to nursing and to the public which this authority makes them heir to. Personally, I am much more in sympathy with the philosophy expressed by one of the "nays" — to wit:

"Nursing education is well organized in all phases, and is a specialty in which few physicians are well grounded. Physicians should assist in teaching, their specified representative to act in liaison in the nursing school to assist in all matters of mutual interest."

Hark to the recommendations of a committee on nursing education and service of the American College of Surgeons, James T. Priestley, Chairman:

"The American College of Surgeons although primarily interested in care of the surgical patient (recognizes) the need for an increasing number of nurses of all types and categories: Although fulfillment of this need is primarily the responsibility of the nursing profession, the College expresses interest in the problem. This interest and an expression of willingness to help within the limits of our ability and the recognized scope of our activities should be communicated by officials of the College to the nursing organizations which are influential nationally in nursing education and training. "It (is to) be thoroughly understood that any in-

terest expressed in the training of nurses by the American College of Surgeons as an organization or by its fellows as individuals be done in a spirit of a sincere desire to help and not with a critical fault finding or dictatorial attitude."

Two-hundred eighty respondents felt that physicians should participate in nursing education with classroom and bedside teaching, and 245 indicated their willingness to do so. Many feel that M.D.s are being ignored completely in the nursing education business, and for these persons there may be some comfort to note that all the diploma schools in Maine utilize M.D.s in the planned curriculum, ranging from 36 to 120 classroom hours per year. In addition all the nursing school directors acknowledged invaluable assistance given by certain physicians in their area, who helped to plan the clinical preparation of the student; by way of example, the details involved in the care of the patient with a tracheostomy tube.

EDUCATORS WITH DEGREES

In response to the question relating to faculty persons and academic degrees, a majority of Maine's doctors felt that it was not necessary for all nursing school faculty members to hold baccalaureate degrees or higher. In fact, many expressed the opinion that there was too much emphasis on obtaining academic degrees, and the resulting educators had an unrealistic approach, with the effect of weakening the bedside teaching. Nurse educators declare that this is nonsense. Most persons teaching nursing courses as such have had extensive nursing service experience, exceptions being the recently graduated students who function as clinical assistants. Obtaining a baccalaureate or higher degree

serves to make them better educators and does not serve to make them poorer nurses.

Table II shows the status of faculties in Maine diploma schools.

Closing of the small hospital nursing educational programs because of inadequate clinical facilities and the prohibitive cost for small institutions to meet minimal educational standards, met with some disapproval. However, most physicians feel that not all hospitals should carry on formal nursing education. Two hundred fifty respondents were in this category, while 196 went on to set 100 beds as the absolute minimum of size for a hospital conducting a diploma program.

ROTATING AFFILIATIONS

The concept of a rotating affiliation to expand the clinical facilities of current diploma schools, to broaden the background of the student nurse with experience in smaller institutions, and to enrich the nursing service of the affiliating hospital, has been given some thought here in Maine. Judging from the questionnaire responses, Maine physicians are overwhelmingly in favor of this with 260 approving the proposal. Enormous problems face the implementation of this program if standards are to be maintained, but it certainly merits investigation.

"THE GOOD OLD DAYS"

"During the past twenty-five years, the professional attitude of graduate nurses has changed materially. Nurses today have no more respect for the doctors than for the hospital maintenance personnel. I believe this is due to the fact that doctors no longer have a part in nursing education."

Most of us recognize the thoughts contained in the

TABLE II

CLASSIFICATION OF FACULTIES OF MAINE'S FIVE DIPLOMA SCHOOLS OF NURSING						
According to Educational Preparation and Nursing Experience						
	Total Faculty	Full Time	R. N. Faculty Members	R. N.'s with Baccalaureate or higher Degree	R. N. Educators with Service Experience	*Range of Length of Service
A	30	12	23	10	23	Less than 1 year to 16 years
B	19	14	14	6	14	1 month to 19 years
C	15	6	8	8	7	2 years to 19 years
D	19	12	15	11	12	2 years to 30 years
E	27	19	22	16	18	1 year to 18 years

\*Many part-time educators are currently engaged in nursing service as well.



above rather plaintive commentary as sheer nostalgia, a yearning for the "good old days," or at least for what was "good" about the "good old days." Whatever our feeling about professional attitudes of nurses in 1936 as compared with 1961, we must agree on one fact — that this is *not* 1936 but 1961, and we move expectantly forward towards 1962, and not complacently backward to 1936.

However, it is very questionable indeed whether changes in attitudes on the part of nurses towards doctors can be laid in very large part at the door of nursing education. Sociologists repeatedly emphasize, among the signs of the "changing times," the lack of deference to older persons, the lack of parent-centeredness in the home. As indicated previously, this depreciation of the attitudes of nurses must be a depreciation of the attitudes of our times, and of the young people who are living in them. Nursing education deals with these young people in the here and now, and does its level professional best to make competent safe practitioners who will not only do things for but mean things to the people they attend. It is doubtful if physician supervision of nursing education program could improve upon this.

No, one no longer assumes, when he receives his diploma from medical college, a mantle of prestige and dignity, which commands, in a regal sort of way, respect and deference, praise and adulation. But is this all bad? Is it bad that a man has to prove to intelligent and informed people that he is a skillful and able practitioner? Is it bad that a man has to develop effective relationships with his assistants and associates with the same zeal and attentiveness that he develops effective relationships with his patients and referring colleagues? Probably not.

At any rate, anyone will tell you that these are changing times — a cliché which does seem a bit absurd because it appears that change is a quality of time. One of the institutions changing with the times is nursing education.

Up into the decade 1930-1940 nursing education was little more than on-the-job training program. Education as such was almost non-existent, and the preparation was largely obtained in service to the patient on behalf of the hospital. For example, a study in 1932 revealed that most hospitals had only one graduate nurse on a floor — the head nurse — and all the general duty nursing service was given by students.

In the past two decades the educational program has been given more and more attention, until today student nurses get a broader scientific and sociologic preparation, and their bedside practice is planned with the intent of guaranteeing preparation to care for and intelligently observe all kinds of patients. This has, of course, led to problems. One of these is in the interaction of nursing service and nursing education. The program is designed to avoid the students spending a year and a half on surgery, and four hours and fifteen

minutes with sick children. It is easy to visualize the potential conflict between the nurse educator and the chief of the nursing service when the latter is faced with a busy surgical floor. It is fair to state that with good will, nurse educators and nursing service people are proceeding toward an amicable settling of these problems, and the direction taken is towards greater independence of the two. But this brings up another, particularly thorny problem. How do we justify any longer the virtually complete subsidy of the student by the institution providing the diploma school, when the educational program is centered in the student and not in the hospital's service needs?

Nurses turn hopefully towards doctors for assistance with these problems. They are frequently rewarded with a witheringly sarcastic, continually carping criticism. At best, there is a shrug of the shoulders — a tacit demonstration, which says effectively as any words, "we told you so." Why should this be? It is certain that the answer lies in the conviction firmly rooted in the minds of most physicians that on-the-job training is enough for professional nurses. All they have to do is follow orders and keep the patient comfortable, we say.

Well, certainly the burden of proof is squarely on the shoulders of one who says that a young person can be prepared to undertake the complexities of nursing care in 1961 with an on-the-job training program. The public expects and demands care by persons who are at once attentive and intelligent, at once soothing and safe practitioners. The law decrees that persons doing professional nursing must while carrying out physicians' orders, understand the cause and effect of the orders. Even doctors compound the problems by delegating more and more responsibility to nurses, by hospitalizing more and more illnesses with the expectation that these will be attended to more effectively than they can be at home, even though the relatives at home have frequently had considerable on-the-job training.

#### PRIMER FOR PROGRESS

It is the thesis of these presents, that patient care and the health of our people can be enhanced by improvement of interorganizational relationships between doctors and nurses and nurse educators. Submitted herewith is a primer for progress in this area.

1. Let us freely offer our advice and cooperation to nurse educators.

2. Let us keep our advice within the frame of reference outlined by the material needed to understand cause and effect of doctors' orders, and leave the planning and methodology to professional educators.

3. Let us not pout with wounded feelings like school-boys rebuffed by their teacher when our advice is not accepted.

4. Let us help rather than hinder the solution of problems which the preparation of professional nurses in 1961 causes.

*Continued on Page 190*

## Letters From A Civil War Surgeon — 1863-64

\*“And the Surgeons of Maine have not been found one whit behind their brethren of other States. With the report of the very first battle, at Bull Run, what did we hear? That Maine Surgeons Allen, \*\*Buxton and Hunkins had refused to forsake the wounded of their regiments, choosing to remain behind to take care of them, and so had been themselves captured, and taken as prisoners to Richmond. And from that day to this, from the Chickahominy Swamps, from the banks of the James and the Rappahannock, from the valley of the Shenandoah, from Antietam, and every other battle field, and from the various established hospitals, we have been continually hearing of good and gallant service done by Maine Surgeons.”

\*Annual Address by Dr. I. T. Dana presented at the Eleventh Annual Meeting of the Maine Medical Association in Portland, Maine on June 10, 1863.

\*\*The original Surgeon of the Fifth Maine had been Benjamin Flint Buxton, of Warren, who was graduated from the Medical School in 1830 and was President of the Maine Medical Association in 1870-71.

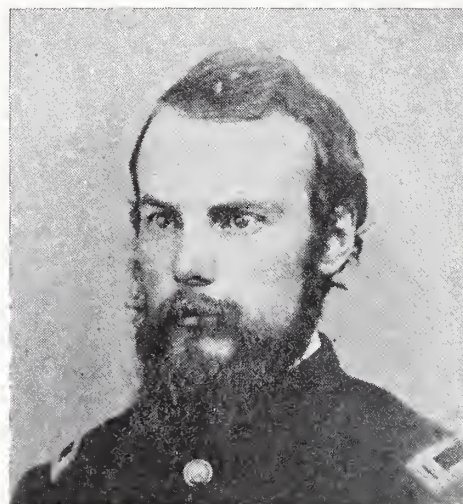
### INTRODUCTION

The following letters were made available to Bowdoin College by Captain Emmet L. Manson, DC, USN, Senior Dental Officer at the Brunswick Naval Air Station. They were written by Captain Manson's grandfather, Melville Harrison Manson, M.D. of Limington, who was a graduate of the Medical School of Maine in the class of 1863. Dr. Manson, who served as Assistant Surgeon of the Fifth Maine Infantry from April 10, 1863 until July 27, 1864, was a physician in Minneapolis for many years.

Of the members of Dr. Manson's Medical School Class — nine served as Regimental or Brigade Surgeons, eight as Assistant Surgeons, two as Acting Assistant Surgeons and two as Hospital Stewards. The group included one Brevet Colonel, one Brevet Lieutenant Colonel, one Major and one Captain. One man served as a Cavalryman, not in Medical Service. Two men, possibly three, died in service.

Members of the class later served the Medical School as Dean, Librarian, and Professor. One man became a Professor at Harvard, one at Princeton and one at the Medico-Chirurgical College of Philadelphia.

Three became President of the Maine Medical As-



Dr. Melville H. Manson

sociation,† one of the Rhode Island Medical Society and another of the Rhode Island Homeopathic Society. Three were Mayors of cities, two Clergymen and one Maine's State Superintendent of Schools.

†Benjamin F. Sturgis, 1889-90; Alfred Mitchell, 1892-93; Lewis W. Pendleton, 1895-96.

New Baltimore, Va.\*  
Sept. 9, 1863

My Dear Friends —

I thought I would write you a short note this morning so here it goes. Everything here is quiet — The stillness of the morning makes a fellow think of Sunday but the sound of many drums now and then breaking in on the quietness reminds us that we are in an enemy's country, exposed to an attack at anytime. We are having some very pleasant weather now, first rate for army operations but the army is not doing much. I suppose Meade is waiting to see what Lee is going to do also to recruit his thinned ranks. Yesterday we heard them fighting near the Rappahannock. Last night we heard that the rebs crossed and attacked Pleasanton's Cavalry but were badly whipped. We could hear the musketry firing though it was ten miles away. The guerrillas of late have been collecting like black flies around us which gives some little annoyance. Our boys sleep with their guns loaded by their sides. An old darkey came in camp Sunday and told us he knew where their camp was and he thought they were pretty strong. Soon arrangements were made to go out and feel of them. The negro was to lead the way. Our regiment was to go and I was to take care of the wounded. As soon as we could safely call it Monday we set out when we came to the picket line it was thought best and safest to send the horses back so I had to take my bag of



medicines and bandages on my back. We made way over hills and pastures for some miles at last halted, in a little woods in a favorable position, for the sun to come up and show us the rebs, we took our lunch and soon it was light, but the large body of guerrillas wasn't there. We saw a small squad some distance off moving from us, our party then was divided and sent in different directions. All day we hunted guerrillas as though we were after foxes now and then picking up a horse but they being mounted could keep at proper distance. We found they had the advantage and we must try some other method so we concluded to go back to camp — Thus ended our great raid. I got a horse for the trouble. I think they will send out some mounted men some day to search for them. We went over some splendid farms, not many rocks here but there isn't hardly a man to work them. The negroes have about all left. The land is very fertile and easily worked and quite cheap. The climate as good as any. A man here thinks he has no farm unless he has three or four acres of land. The women here feel the loss of the negroes and are in a dreadful fix. They don't know how to work. They can't get a meal in any kind of style. They say a good many hard things about the Yankees for setting them all free but they will soon get used to it. Some families that lost theirs some time ago say they are glad they are gone now. There is nothing like getting used to anything — We hear that we are to be paid next Monday. We may and may not. I shall let you know when I send the money. I am enjoying myself tip top. Health first rate. May this find you in the same good condition.

M. H. Manson

\*Five miles Northeast of Warrenton, Va., on the Warrenton Turnpike

5th Maine Infantry  
Camps near Warrenton, Va.  
Nov. 2, 1863

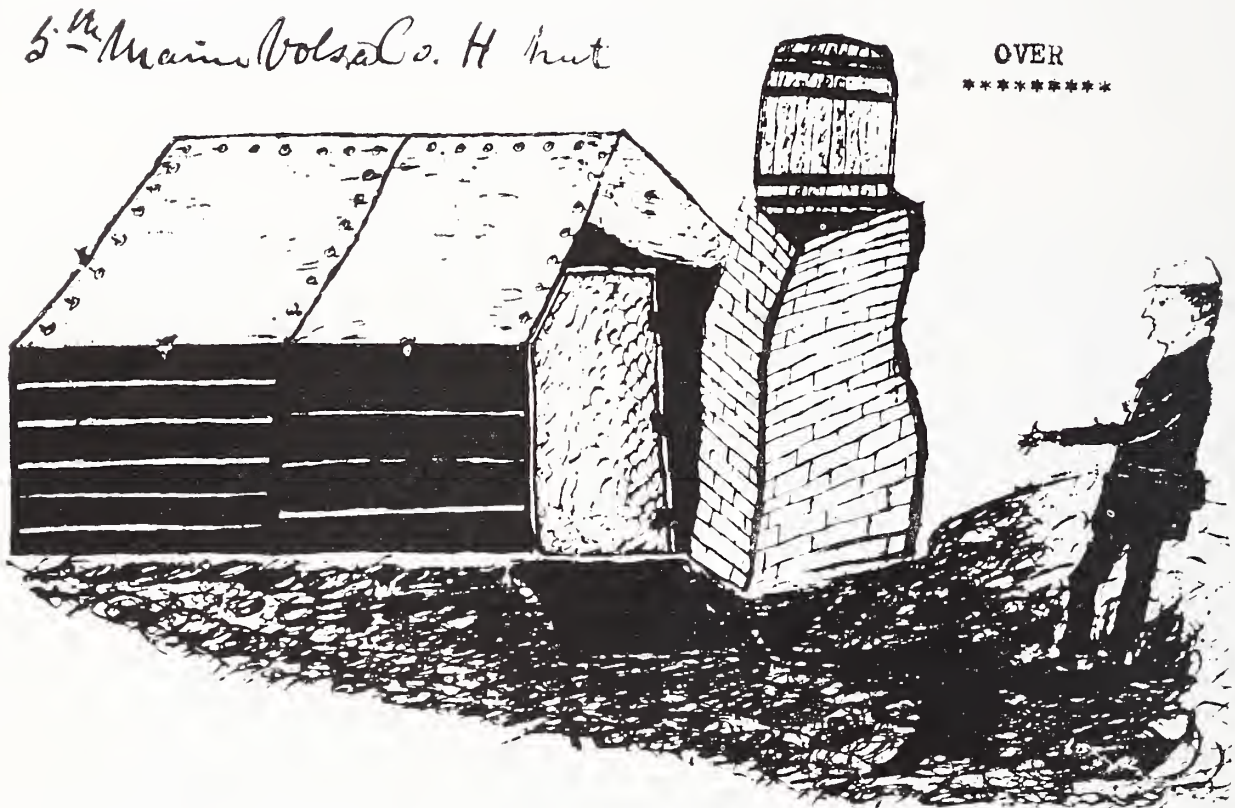
My dear friends —

I received yours of the 26th today — was made sad to hear of the ravages which that tyrant diptheria is making among my neighbors and kinsfolks. I have always considered Limingston to be a very secure place and in fact I have never before heard of a case in town. Many things have been called diptheria there which in reality were not — It seems now that it has really visited that place. The best advice I can give you is to take every precaution in your power to prevent it which you can do by not exposing yourselves to it and by proper hygienic attention by which I mean to cleanliness — not go out nights to get the night air nor very early in the mornings stay at home and dry apples — use every means to make your health better. In such times people should be very careful of their health. If by chance you should get the disease call in a physician early and you will come out all right. We haven't had any cases here though we have had some cases of very sore throats. We use principally Chloride of Potassium internally and as a gargle. Sometimes we use alum, etc. You wanted to know what I had to do, well I can tell you. At 6¼ o'clock in the morning we have sick call — that is the drummers beat a peculiar time called the "Sick Call"; then the sergeants of each company collect together all the sick in the company and bring them up to the hospital. When I hear that call I spring out of bed and go to the hospital, the steward is also there to put up what medicine I prescribe. I examine every man and prescribe for him if he needs it. Sometimes they don't and if he is fit for duty I put him on duty, if not I mark him quarters and he does no duty for that day. At present we average about six excused from duty at the morning call though there are twice that number coming up. These are men not sick enough to be put in the hospital. Then we have to prescribe for the men in the hospital, for the day and the steward puts it up and deals it out to them if there are many he has nurses to deal it out. At present we have only one and he was put in today. He stuck an axe in his foot. Sometimes we will have quite a number but we don't keep them long, we cure them; if we are moving they are sent to Washington. Well, then I wash and comb my hair and by that time breakfast will be smoking if we happen to have anything for breakfast — At present, after this is done I have not much to do, except occasionally to extract a tooth; make some reports, etc., but have to be here in case a man meets with an accident or wants anything in the medical line. When there is a fight expected some surgeons are expected to go to division hospital to take care of the wounded, some go with the regiment in the fight but in the rear of course but not out of danger by any means. There is not much danger of musket balls but as much if not more of shell and solid shot than those in the regiment. It isn't very often that a surgeon is killed. They are sometimes and sometimes taken prisoners and of late fare the same as prisoners of war. There has been a time when they didn't hold them, considering them non-combatants. I have always but once been with the regiment. I have assisted in amputation in splinting fractured limbs, removing tumors. We removed one today from the face of one of our men, and doing all sorts of things which a surgeon is expected to do. The jobs are too numerous to mention. \*Dr. Warren is here and two of us makes it easy with our present number of men. I have seen more bullet wounds than a man in Maine would see in forty lives. My health is first rate. Never was better. We are in camp about a mile from Warrenton, the prettiest town I have seen in Va. It was considered about the sixth in size in Va. The railroad is completed and last night for the first time since the road was destroyed we have

heard the engine whistle at Warrenton and it did sound good. The boys set up a shout and cryed soft bread and whiskey. The boys are building up for cold weather but we may have to leave before long. They can make their little units very comfortable. They make a very good chimney of poles, rocks, and mud I tell you and are as happy as clams. We haven't got any built for our house yet. We are waiting to see if we are going to move before we build. I think we shouldn't see much more fighting this fall unless we are sent South and everybody thinks this corps will remain in Va. I should like to call and get my dinner Thanksgiving Day. I guess we will have one here however. Old time will introduce us to a new year pretty soon. Well I don't much care how swiftly he rolls away the days and months, its all the same with me. I expect we shall get paid in a few days. I like to have pay days come around. I should like about a peck of Porters and etc.

All goes lovely with me. Write me soon. M. H. Manson.

This is the house we live in.



\*Francis Greenleaf Warren, the Regimental Surgeon, was graduated from the Medical School of Maine in 1848 and from Jefferson Medical College in 1861. He was for many years a physician in Biddeford, and served as Mayor of the city.

5th Maine Regt. of Inf.  
Brandy Station, Va.<sup>1</sup>  
Jan. 9th, 1864

My Dear Folks:

I received Elen's letter a day or two ago.

Was glad to hear from you. My health is very good. I suppose we are in Winter quarters and we contrive to work off the time pleasantly. Not much sickness in the regiment and consequently not much to do. The time does not drag very heavy — The weekly reports come often. Winter is upon us. The ground is covered with snow. The ground is frozen. The snow will probably melt away soon. We have very comfortable quarters and don't mind the winter. A large portion of our regiment have reenlisted for three years more. A very large number in the corps and throughout the whole army. The only thing I regret is that number is to count on the quota of their native towns thereby saving so many copperheads from trying the realities of war. What do you think when you see so many of the old three year men that have gone through with the hardships of so many campaigns, periled their lives and endured much suffering during that time come up and volunteer for another three years — is there any patriotism in the army do you think. I think there is more than at home. The prospect is that we shall have the best army in the Spring that we ever had. The most effectual. Then we will go to Richmond and no mistake. Eleven of our officers signified their intention to remain in the service three years more and were



ordered home for thirty-five days to see their friends once more. I haven't yet signified my intention to reenlist but our officers all want me to remain. They tell me I can wear a leaf if I will stay. Perhaps you don't know what that is. Surgeons and majors wear a leaf. A surgeon ranks with major of Cavalry which is equal to Lieut-Col. of infantry.

I sent a sword by Capt.<sup>2</sup> Ladd who was going to Saco to be left at Frank Meade's for you. You can get it sometime when you are down to Biddeford. It is one I took from the rifle pit at Rappahannock Station after that memorable<sup>3</sup> charge. It was about twelve o'clock in the night while assisting in getting off some wounded men. I took it from beneath the body of a dead reb. I want to keep it for a trophy to show to my great, great, grandchildren. You will see the C.S.A. on the hilt showing that it is Southern make.

I can't tell you when I will be at home. Perhaps a short time and perhaps a long time may elapse. I hope to see you next Summer though.

Tell Marm I am in need of nothing. My wants are all supplied — good stockings, good drawers, etc.

Remember me to all the girls. Don't show my letters to any one I write them so poorly.

Yours Affect-  
Manson

1. Five miles northeast of Culpepper, and seventeen miles south of Warrenton.

2. Captain John D. Ladd, of Saco, commanded Company H of the Fifth Maine.

3. Late at night, on November 7, 1863, the Fifth Maine Infantry and the One Hundred and Twenty-First New York Infantry charged a fortified position. Without firing a shot the Fifth Maine captured several hundred prisoners and the battle flags of four Confederate regiments, with a loss of thirty-five men killed and wounded.

Background sources:

Bicknell: *History of the Fifth Regiment Maine Volunteers* (1871)

General Catalogue of Bowdoin College and the Medical School of Maine (1950)

5th Maine Regt. of Inf.  
Feb. 3, 1864

My dear Friends —

I have not heard anything from you since I wrote you last. I am well as usual. I get along just as well as though I was at home — enough to eat and that which is pretty good, enough to keep me warm by day and night. Not much to do now. We have got the small pox all cleaned up in the regiment and I think we shall not have any more cases. You needn't think I can have it. Doctors you know never have any such things. I have been exposed to small pox and measles but I can't get either and there is one thing I don't care for either. I had as leave have small pox as not. We don't let them die. The time is past for me to be sick if I had taken it. I had just as leave be sick here as anywhere. We are pretty sure to have fresh air which is one of the most important things to be thought of but sadly neglected in the nice and closely made houses at home. I had rather have typhoid fever in a shelter tent than in the best room you have got. My chances to get well would be better. I never turn out for any disease, it is no use to be afraid. If you are you will surely get it. Hundreds of our soldiers are shaking to death with fever and ague but I have never been the least affected with it. I have marched many a night when I knew the air was loaded with poison not only miasmatic poison but that which arises from dead horses etc. I never let it cause me any trouble. I allow things to have their own way, **that** is when I can't help it. It has (been) very warm and pleasant for two or three weeks. Last night we had a thunder shower and today is windy and getting a little colder. I have made my regular visits today to my secesh ladies. They are nicely etc. Today I visited an old colored lady 116 years old just for fun. All her children and grand children and great grand children, great, great grand children had run away and left her all alone. Another old colored lady had pity on her and went to take care of her till death called but she is getting discouraged and thinks the old woman never will die and I am inclined to that opinion myself. The old woman has a mouth full of good ivory and her eyes as bright as diamonds and she can beat Bill Kelley cutting wood now. Her cabin is made of logs with a stone chimney at the end only one room. This is the way they all are built. She says she has seen three wars. Last summer they had a battle here and her house was in the battle field. She let them fight away for she could not do any better.

I sent a sword home by Capt. Ladd.

Told him to leave it with F. Meades.

Have you got it yet. I set a good deal by it. I don't want it lost. That is one thing to prove my courage. Call and get it when you are down.

I wrote to Murnon the other day. I have never heard anything from Smith of late. I wrote him last.

Write me all the news. Kiss the "old woman" for me somebody.

Yours truly,  
M. H. Manson

# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Decisions Due Today On Dr.-Draft Time Tables**

Air Force procurement officials will go to Selective Service headquarters to consult on what steps shall be taken next to meet medical manpower requirements. Last March USAF revealed that it would need 250 replacements, beginning in July. Since then, however, only a few score have volunteered. Defense Dept. is expected to ask Selective Service to "draft" 175 young doctors, about 30 of which are to be channeled into Navy. Even after they get their "Greetings" notices, selectees can still apply for voluntary commissioning. (WRMS June 5, 1961)

### **AMA Says It Objected To Medicare Fee Schedules**

General Accounting Office's disclosure last week, in a special report to Congress, that it feels the government is being Medicare-milked by many physicians brought a quick rejoinder by AMA. Chicago headquarters issued statement Friday that it began urging Medicare *not* to set up fixed fee schedules even before this program of health services to military dependents was launched in 1956.

"We repeatedly pointed out that knowledge of a fee schedule would tend to make physicians use the maximum fees," said AMA. "But Dept. of Defense officials would not listen." (WRMS June 5, 1961)

### **"Watchdog" GAO Advises Medicare Fiscal Reform**

General Accounting Office has protested to Congress that physicians in some states are using Medicare as a

good thing. The "watchdog of the Treasury," as GAO is known, wants Defense Dept. to tighten up on negotiations of fees and settlement of claims. GAO thinks U. S. taxpayers are losing up to \$4 million annually because doctors are charging maximum-allowed fees for services to military dependents, rather than the ordinary, going fees charged to patients who foot their own bills. Interestingly, Medicare headquarters or, more precisely, the Army does not go along with GAO recommendations of administrative reforms designed to reduce doctors' billings. (WRMS June 5, 1961)

### **Fee Schedule Sampling**

GAO auditors selected 10 states in which the Medicare fee schedule is distributed and they found that 93.5 per cent of doctors' claims were for maximum allowance in maternity cases (these comprise bulk of Medicare volume). In five states where fee schedules are *not* publicized, only 32.2 per cent of claims were for the maximum. The report does not name these five states, but the 10 in the other group are: SC, Mass., Ark., Ga., Tex., Fla., Calif., Pa., NC and DC.

Also cited in GAO's 70-page critique:

Inconsistencies in payment of medical and hospital claims, though Army rejects the proposal that one contractor be chosen for each geographical area to settle both types of claims.

Tardiness in reporting terminations of eligibility.

Need to simplify determination of fees for obstetrical services, including prenatal care.

Shoddy execution of claim forms.

(WRMS June 5, 1961)



### Flu Epidemics Cause Excess Deaths

Flu epidemics have a lethal potential for certain high-risk groups, according to an article in the June 3 *Journal of the American Medical Association*.

An estimated 86,000 deaths in excess of the normally expected number occurred in the United States during three waves of Asian flu in 1957, 1958 and 1960, Theodore C. Eickhoff, M.D., Ida L. Sherman, M.S., and Robert E. Serfling, Ph.D., Communicable Disease Center, Public Health Service, Atlanta, reported.

Nearly 40,000 excess deaths were recorded during the first outbreak of Asian flu from September through December, 1957, they said. A second wave from January through March, 1958, brought 20,000 excess deaths, they said, and a third outbreak during the first three months of 1960 caused approximately 27,000 excess deaths.

There is a "significant body of evidence that the lethal potential of epidemic influenza is still present and still to be reckoned with," the authors said. "Rather than recurring in a mild form, as might have been anticipated as the over-all immunity of the population increased, the most recent outbreak in 1960 resulted in excess mortality which exceeded that of the second wave of the 1957-1958 epidemic."

From an analysis of the excess deaths, the researchers concluded that it is "apparent that the population over 65 years of age pays by far the heaviest toll in excess deaths."

"Although during the first epidemic period only slightly over one-half of the excess deaths occurred in persons 65 years and older, this proportion increased in succeeding epidemics; in the 1960 epidemic, 80 per cent of the excess deaths occurred among individuals in this age group."

Of the 86,000 excess deaths, they said, almost 85 per cent could be attributed to two broad categories — pneumonia-influenza, and heart-circulatory-kidney diseases. The latter category alone accounted for more than one-half of the total excess deaths.

The authors also noted that the number of deaths fell slightly below normal from June through August, 1958, following the flu epidemics. However, this death deficit was too small to offset the preceding excess.

"This suggests that most victims of an influenza epidemic are those who might have lived considerably longer had influenza not claimed them, rather than severely debilitated patients in whom influenza is merely a terminal event," they said.

Other chronic diseases were found to have a strong association with epidemic influenza in terms of increased risk of death, the authors said.

There was a marked increase in deaths due to asthma and respiratory diseases other than flu and pneumonia; a moderate increase in deaths due to diabetes, and rheumatic heart disease, and a mild but definite increase in deaths due to cirrhosis of the liver, lung tuberculosis, and chronic nephritis, a kidney ailment.

Studies linking flu with mortality among expectant mothers also were cited.

"This analysis serves to underscore the fact that certain individuals are at increased risk of death from influenza," they said. "Three broad groups can be identified, two of which overlap: persons over 65 years of age, persons with certain associated chronic diseases, and pregnant women."

The routine use of influenza vaccine in such high-risk groups may be of great value in reducing the extent of influenza-associated excess mortality, the authors suggested. Vaccines are believed to be 60 to 75 per cent effective in preventing flu, they said.

### Libel Suits Against Members Of Tissue Committee, Grievance Committees, Etc.

All medical associations and hospital staffs have a committee, by one name or another, which is charged with the responsibility of reviewing the qualifications of applicants and members to determine whether or not they are professionally and ethically qualified to obtain or retain membership privileges. The American Medical Association and the American Hospital Association have become particularly interested in the problem of suits for libel against members of hospital tissue committees or credential committees in those instances in which disciplinary action must be taken against a staff member. Should the hospital carry insurance to pay the costs of defending such suits and paying judgments, if any, that are assessed or should the professional liability insurance carried by the physician cover such a contingency?

The National Bureau of Casualty Underwriters, an organization to which stock companies writing professional liability insurance belong, has concluded initially that such activities are not within the purview of the standard form of insurance policy written for physicians. The theory of this decision is that such activities do not constitute malpractice, error or mistake in rendering or failing to render professional services. Further negotiations will undoubtedly take place with the purpose of accomplishing a change in definition so that the activities of such committee members could be construed as professional services. If this fails, perhaps a group policy can be devised to cover the members of medical societies and hospital medical staffs serving on these committees.

In the meantime, the State of California has this year enacted a law which may accomplish the desired end. The law, which was sponsored by the California Medical Association, would eliminate civil liability on the part of physician members of medical society committees or hospital staff committees for any act performed within the scope of the functions of those committees, if the act was reasonable under the circumstances and was without malice. It is too early for there to have been any court decisions construing this statute but the hos-

pitals and medical societies will certainly be interested in hearing what the courts have to say about such legislation. (The Doctor & The Law, May 1961)

### What The Courts Are Saying

California, 1961 — The Supreme Court held that the defense of governmental immunity from tort liability would be rejected as mistaken and unjust. *Muskopf v. Corning Hospital District*, 359 P (2) 457.

Delaware, 1961 — The Supreme Court held that the result of a blood test of a blood sample taken from an unconscious person is not admissible as evidence against him in a drunken driving hearing. *State v. Wolfe*, 164 A (2) 865. (The Supreme Court of the United States took an opposite view a few years ago in *Breithaupt v. Abrams*, 77 S. Ct 69.)

Oklahoma, 1961 — Insurance company representatives, armed with authorizations signed by patients or their representatives, sought to inspect and copy hospital and medical records in the defendant hospital. The U. S. District Court for the Western District of Oklahoma said that the hospital had no right to deny this request when the records contain information which might enable the patient to maintain or defend an action. *Pyramid Life Insurance Company v. Masonic Hospital Association of Payne County*. D.C. Okl. No. 8380, Feb. 8, 1961.

Wisconsin, 1961 — The Supreme Court reversed all prior inconsistent decisions and announced that it will no longer recognize the defense of charitable immunity in cases where a paying patient seeks recovery from a charitable hospital for the negligence of the hospital, its agents, servants or employees. *Mary Kojis v. Doctors Hospital*, 107 NW (2) 131. (The Doctor & The Law, May 1961)

### Ike Blasts Spending

Former President Eisenhower sharply criticized the Administration's domestic spending programs which he described as "sheer recklessness." . . . On June 1, in his first speech since he left the White House, Mr. Eisenhower declared that he was against "government by big brother." . . . He warned that "a free, healthy, competitive economy cannot exist long if it is to be subjected to political abuse, bewildered by a constantly shrinking dollar and continually fearful of government controls." . . . "We are convinced," he said, "that he (the individual citizen) can spend his own life and spend his own money better than some possibly benevolent bureaucrat. All agree it is criminal for one man to steal from another. But over-powerful government can rob the individual just as surely — only the scale is grander, the stakes are greater, and the loss far more tragic. For what is stolen by paternalistic government is that

precious compound of initiative, independence, and self-respect that distinguishes a man from a mob, a person from a number, a free man from a slave." (Legislative Roundup, June 2, 1961)

### New Licenses To Practice Medicine Increased Slightly In 1960

The estimated number of new licenses to practice medicine issued in the United States in 1960 showed a slight increase for the ninth consecutive year, the American Medical Association reported recently.

There were approximately 16,211 physicians who were registered during the year, compared with 16,068 in 1959, according to an annual report of the A.M.A. Council on Medical Education and Hospitals.

Among these were 8,030 physicians who received their first licenses, a decline of 239 from the 8,269 issued in 1959, the report showed.

Since about 3,700 physicians died during 1960, there was a net gain of 4,330 in the physician population last year. This was a smaller net gain than the 4,769 physician increase in 1959.

New York issued the largest number of first licenses with 1,039 followed by California with 652 and Pennsylvania with 534.

The University of Michigan had the greatest number of graduates to be examined for licensure with 183.

The total number of licenses to practice medicine and surgery issued in 1960 was 16,102. The figure includes 7,571 licenses granted after a successful written examination and 8,531 granted by reciprocity and endorsement of state licenses or the certificate of the National Board of Medical Examiners.

Of the 16,102 licenses, California issued the largest number with 2,427. New York issued 1,572 while more than 500 each were registered in Florida, Illinois, Michigan, New Jersey, Ohio, Pennsylvania, Texas and Virginia.

There were 8,873 applicants examined for licensure by state medical licensing boards in 1960. A total of 1,193, or 13.4 per cent, failed. This compared with 8,996 applicants and 12.9 per cent rate of failure in the previous year.

Only 3.3 per cent of the 5,502 graduates of approved medical schools failed to pass their examinations in 1960. A total of 16 approved medical schools in the United States and 3 in Canada had no failures among their graduates.

The report also included results of six examinations given in 1958, 1959 and 1960 by the Educational Council for Foreign Medical Graduates to foreign students to certify that their medical knowledge is comparable to that expected of graduates of approved medical schools in the United States.

As of Dec. 31, 1960, the Council had examined 17,828 foreign medical graduates and qualified 12,588. Approximately 30 per cent failed the test.



# Program . . .

108th Annual Session

Maine Medical Association

JUNE 18, 19, 20, 1961

The Samoset, Rockland

## Scientific Committee

John A. Woodcock, M.D., Bangor, Chairman

Sidney R. Branson, M.D., South Windham

James E. Poulin, M.D., Waterville



## Program

Arranged by the Scientific Committee

JOHN A. WOODCOCK, M.D., Bangor, Chairman

SIDNEY R. BRANSON, M.D., South Windham

JAMES E. POULIN, M.D., Waterville



Dr. Woodcock

## Information

### Registration:

Registration Headquarters throughout the session will be in the Lobby at The Samoset.

Sunday June 18 — 9:00 A.M. to 5:30 P.M.

Monday June 19 — 8:30 A.M. to 5:30 P.M.

Tuesday June 20 — 8:30 A.M. to 5:30 P.M.

### Visiting Delegates:

Introduction of Visiting Delegates will take place at meetings of the House of Delegates on Sunday, June 18 or at the General Assembly, Monday afternoon, June 19.

### Scientific and Educational Exhibits:

These exhibits, which are listed elsewhere in this program, will be located in the Ballroom.

### Technical Exhibits:

The technical exhibits are easily accessible to the Ballroom (where Scientific Sessions will be held), to the Dining Room and to the Golf Course. A list of these companies will be found in this program. Please show your appreciation by visiting these exhibits at every possible opportunity.

### Sponsors:

The speakers for the scientific programs are supported in part by a grant from Merck Sharp and Dohme Postgraduate Program and from the Maine Cancer Society.

## Sunday, June 18

10:00 A.M. First Meeting of the House of Delegates  
JAMES A. MACDOUGALL, M.D., Acting President-Elect presiding

Parliamentarian, LINUS J. STITHAM, M.D.

12:30 P.M. Luncheon

3:30 P.M. Second Meeting of the House of Delegates

DR. MACDOUGALL, presiding

6:30 P.M. Dinner

Speaker: MAX FRANKEL, New York Times United Nations Correspondent

Subject: **The Expanding Soviet Sphere**



Mr. Frankel

## Monday, June 19

9:30 A.M. Film on External Cardiac Massage,  
Courtesy of Smith Kline & French Laboratories  
Presented by CLEMENT S. DWYER, M.D., Maine Heart Association

### Scientific Program

Presiding — SIDNEY R. BRANSON, M.D.

10:00 A.M. Problems of Manned Space Flight

COLONEL JOHN P. STAPP, M.C., USAF Aerospace Medical Center, Brooks Air Force Base, Texas

11:00 A.M. Immunity and Cancer

H. JACK GEIGER, M.D., Harvard University Medical School, Department of Preventive Medicine

Sponsored by Maine Cancer Society

12:30 P.M. Luncheon





Col. Stapp



Dr. Geiger



Dr. Taylor



Dr. Branch

### Scientific Program

*Presiding* — JOHN A. WOODCOCK, M.D.

**Sponsored by the Maine Chapter of the American College of Surgeons, John F. Reynolds, M.D., Waterville, President**

#### 2:00 P.M. Organization of Emergency Medical Facilities

PAUL A. SKUDDER, M.D., New York Hospital, New York City

#### 3:00 P.M. Panel On Trauma

##### **That Important First Hour**

Moderated by JOHN A. WOODCOCK, M.D., Bangor

Panelists: GEORGE L. MALTBY, M.D., Portland; EMERSON H. DRAKE, M.D., Portland; C. PHILIP LAPE, M.D., Portland; LAWRENCE CRANE, M.D., Portland; DANIEL R. SHIELDS, M.D., Lewiston

#### 4:00 P.M. General Assembly

*Presiding*, CARL E. RICHARDS, M.D., President  
Election of President and President-Elect

#### 6:00 P.M. Cocktail Party — Sponsored by Brunswick Publishing Company, Brunswick, Maine

#### 6:30 P.M. Annual Banquet

GOVERNOR JOHN H. REED

Presentation of Honorary Pins

Speaker: LLOYD H. ELLIOTT, President, University of Maine

Subject: A Medical School for Maine

### Tuesday, June 20

#### 9:30 A.M. Film on Mental Retardation

Presented by PETER W. BOWMAN, M.D., Superintendent of Pineland Hospital and Training Center

### Scientific Program

*Presiding* — JAMES A. POULIN, M.D.

#### 10:00 A.M. The Pelvic Pain Syndrome

HOWARD C. TAYLOR, JR., M.D., Columbia University College of Physicians and Surgeons

#### 11:00 A.M. Cancer is Curable

CHARLES F. BRANCH, M.D., Pathologist, Central Maine General Hospital, Lewiston, Maine

#### 12:30 P.M. Luncheon

### Scientific Program

2:00 to 4:00 P.M.

*Presiding* — SIDNEY R. BRANSON, M.D.

#### **Sponsored by the Maine Medico-Legal Society**

#### **The Investigation of Sudden, Unexpected, Suspicious and Violent Death in the City of New York**

MILTON HELPERN, M.D., Chief Medical Examiner of the City of New York

#### 6:30 P.M. Clam Bake

Presentation of Golf Prizes



Dr. Skudder



Lloyd H. Elliott



Dr. Helpern

## Specialty Group Meetings

**Monday, June 19**

2:00 to 4:00 P.M.

Maine Society of Anesthesiologists

ROBERT W. AGAN, M.D., Portland, presiding

### Sudden Cardiac Collapse

STEVENS J. MARTIN, M.D., Hartford, Connecticut

Maine Society of Pathologists

IRVING I. GOODOF, M.D., Waterville, presiding

### Chromosomes

GEORGE YERGANIAN, M.D., Children's Medical Center, Boston, Massachusetts

M.M.A. Eye Section

OTIS B. TIBBETTS, M.D., Auburn, presiding

### Problems in Strabismus

EDWARD A. DUNLAP, M.D., New York City

Maine Chapter of the American Academy of Pediatrics

HENRY C. THACHER, M.D., Auburn and ELLA LANGER, M.D., Augusta, presiding

### Subdural Effusion in Infancy and Childhood — Current Concepts

PHILIP DODGE, M.D., Massachusetts General Hospital

**Tuesday, June 20**

10:00 A.M. Maine Medico-Legal Society Annual Business Meeting

2:00 to 4:00 P.M.

Maine Society of Obstetrics and Gynecology

JOHN A. JAMES, M.D., Auburn, presiding

### Adenocarcinoma of the Ovary

HOWARD C. TAYLOR, JR., M.D.

Maine Society of Internal Medicine and the Maine Society of Non-Surgical Specialists

CHARLES A. HANNIGAN, M.D., Auburn, presiding

### Problems of the Internist

STEWART P. SEIGLE, M.D., Hartford, Connecticut

Maine Society of Clinical Hypnosis

CLYDE I. SWETT, M.D., Island Falls, presiding

Films: **Hypnosis in a Case of Thyroidectomy, Hypnosis in Obstetrics**

Maine Thoracic Society

GEORGE I. WILSON, M.D., presiding

### Certain Aspects of Influenza and Staph Pneumonia and Pulmonary Superinfections

DONALD B. LOURIA, M.D., Assistant Professor of Medicine, Cornell Medical School

## Luncheon Meetings

**Tuesday, June 20**

Maine Chapter American Academy of General Practice

Maine Radiological Society

## Visiting Delegates

Connecticut State Medical Society

SYDNEY LURIA, M.D., Bridgeport

Massachusetts Medical Society

DAVID W. WALLWORK, M.D., North Andover

New Hampshire Medical Society

DOUGLASS W. WALKER, M.D., Laconia

New York Medical Society

SAMUEL Z. FREEDMAN, M.D., New York

Rhode Island Medical Society

HANNIBAL HAMLIN, M.D., Providence

EZRA SHARP, M.D., Providence

## SPECIAL NOTICES

### Election of President And President-Elect

The election of a President and President-Elect will take place at the General Assembly, June 19 at 4:00 P.M.

### Election Of Councilors

Election of Councilors for the following Districts will take place at the Second Meeting of the House of Delegates on Sunday, June 18 at 3:30 P.M.

Fifth District — Hancock and Washington Counties

Sixth District — Aroostook, Penobscot and Piscataquis Counties

In accordance with the By-Laws, "Nominations for members of the Council for any District where there is a vacancy shall be made by a caucus of the members of the House of Delegates in that District. Each candidate for Councilor must be a resident of the District for which he is nominated."



### Maine Heart Association Exhibit

Physicians attending the Annual Session of the Maine Medical Association at the Samoset Hotel will have the opportunity to self test their ability to identify unknown heart sounds through a device developed by J. Scott Butterworth of the American Heart Association. The Maine Heart Association is pleased to be the first to present this outstanding exhibit at a State Medical Society meeting. The test consists of the audio and visual presentation of 15 cardiac sounds. Each is heard through stethophones and seen simultaneously on an oscilloscope. Each physician taking the test is provided with a check sheet on which he may record his diagnosis, for his own private information. A separate playback section of the test provides detailed diagnostic information for each of the 15 cardiac sounds. The exhibit provides facilities for 16 participants at each seating and will be presented by Wilbur B. Manter, M.D., chairman of the Maine Heart Association Professional Education Committee.

Also during the session the Maine Heart Association will sponsor a demonstration of Closed Chest Cardiac Resuscitation under the direction of Dr. Clement S. Dwyer, Eastern Maine General Hospital. Dr. Dwyer is chairman of the Maine Heart Association committee on Closed Chest Cardiac Resuscitation and was one of six Maine physicians to attend the Resuscitation Institute in Boston during March.

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### HONORARY PINS

Presentation of the Association's Honorary Pins will be made by Carl E. Richards, M.D., President, at the Annual Banquet, Monday evening, June 19 at 6:30 P.M.

### FIFTY-YEAR PINS

Fifty-Year Lapel Pins will be presented to the following members who were graduated from Medical School in 1911:

#### Androscoggin County

Everett C. Higgins, M.D., Lewiston  
Bowdoin Medical School

Max Hirshler, M.D., Lewiston  
Munich University, Germany

#### Cumberland County

James Patterson, M.D., South Portland  
Rush Medical College

Carl M. Robinson, M.D., Portland  
Harvard Medical School

#### Knox County

Fred G. Campbell, M.D., Warren  
Baltimore Medical College

#### Lincoln-Sagadahoc County

Rufus E. Stetson, M.D., Damariscotta  
Columbia University College of Physicians and Surgeons

### Somerset County

Merlon A. Webber, M.D., Pittsfield  
Bowdoin Medical School

### Oxford County

Lester Adams, M.D., Thomaston  
Johns Hopkins University School of Medicine

### Waldo County

Carl H. Stevens, M.D., Belfast  
Bowdoin Medical School

### FIFTY-FIVE-YEAR PINS

Fifty-Five-Year Pins will be presented to the following members who received Fifty-Year Medals in 1956:

### Kennebec County

Edward H. Risley, M.D., Prides Crossing, Mass.

### Lincoln-Sagadahoc County

Harris C. Barrows, M.D., Boothbay Harbor

### SIXTY-YEAR PINS

Sixty-Year Pins will be presented to the following members who received their Fifty-Year Medals in 1951:

### Cumberland County

Luther A. Brown, M.D., Portland

### York County

Ansel S. Davis, M.D., Springvale

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### PROGRAM FOR THE LADIES

The members of the Woman's Auxiliary to the Knox County Medical Society are arranging a Social program for the ladies which will include —

Art and Craft Exhibit — Penobscot Room  
(June 19 and 20)

Monday, June 19, 9:30-11:00 A.M.

Coffee — Penobscot Room

Tuesday, June 20, 11:00 A.M.-12:00 NOON

Sherry Party — Penobscot Room

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Bridge Tournament — Time to be announced

## County Delegates

### FIRST DISTRICT

#### Cumberland County Medical Society

*Delegates* — Albert Aranson, M.D., 39 Deering St., Portland — Secretary

(2 years)

Philip S. Fogg, Jr., M.D., 173 Pleasant Ave., Portland

Morrill Shapiro, M.D., 29 Deering St., Portland

David S. Wyman, M.D., 47 Deering St., Portland

Benjamin Zolov, M.D., 296 Congress St., Portland

Emerson H. Drake, M.D., 18 Bramhall St., Portland

(1 year)

Robinson L. Bidwell, M.D., 31 Bramhall St., Portland

Charles R. Glassmire, M.D., 58 Deering St., Portland

Robert H. Pawle, M.D., 8 Walcott Ave., Falmouth

David K. Lovely, M.D., 46 Deering St., Portland

*Alternates*

(2 years)

Donald E. Allen, M.D., Sebago Lake

Eben T. Bennet, M.D., 49 Deering St., Portland

Louis G. Bove, M.D., 12 Deering St., Portland

Maurice Van Lonkhuyzen, M.D., 31 Bramhall St., Portland

Howard P. Sawyer, Jr., M.D., 22 Bramhall St., Portland

(1 year)

Louis Bachrach, M.D., 16 Union St., Brunswick

George F. Sager, M.D., 18 Bramhall St., Portland

John F. Gibbons, M.D., 22 Bramhall St., Portland

George O. Chase, M.D., 144 State St., Portland

#### York County Medical Society

*Delegates* — Charles W. Kinghorn, M.D., 4 Wentworth St., Kittery — Secretary

Robert F. Ficker, M.D., Maine St., Kennebunkport

Roger J. P. Robert, M.D., 331 Main St., Saco

Robert D. Vachon, M.D., 34 Winter St., Sanford

*Alternates*

Kenneth E. Leigh, M.D., Brixham Rd., York

Ruth E. Endicott, M.D., 16 Main St., Ogunquit

Alvin A. Hoffman, M.D., P. O. Box 222, York

### SECOND DISTRICT

#### Androscoggin County Medical Association

*Delegates* — Donald L. Anderson, M.D., 369 Main St., Lewiston — Secretary

Ross W. Green, M.D., 33 Court St., Auburn (1 year)

Paul J. B. Fortier, M.D., 111 Webster St., Lewiston

(2 years)

Waldo A. Clapp, M.D., 215 College St., Lewiston

(3 years)

Harvey J. Proulx, M.D., 92 Pine St., Lewiston

*Alternates*

Ralph Zanca, M.D., 86 Pine St., Lewiston (1 year)

Joelle C. Hiebert, Jr., M.D., 369 Main St., Lewiston

(2 years)

Wilfrid A. Cloutier, M.D., 210 Sabattus St., Lewiston

(3 years)

Edward L. Reeves, M.D., 179 Sabattus St., Lewiston

#### Franklin County Medical Society

*Delegates* — Philip B. Chase, M.D., 36 Main St., Farmington — Secretary

Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley

*Alternate*

Wallace H. Duffy, M.D., 100 Main St., Farmington

#### Oxford County Medical Society

*Delegates* — Albert P. Royal, Jr., M.D., 82 Maine Ave., Rumford — Secretary

Norman M. Jackson, M.D., 89 Congress St., Rumford (1 year)

John A. Greene, M.D., 96 Congress St., Rumford (2 years)

*Alternates*

Albert J. Grish, M.D., 18 Hartford St., Rumford (1 year)

H. Richard Bean, M.D., 171 Main St., Norway (2 years)

### THIRD DISTRICT

#### Knox County Medical Society

*Delegates* — Mustafa V. Onat, M.D., St. George — Secretary

Hugo Hochschild, M.D., 33 Main St., Thomaston (1 year)

Merrill J. King, Jr., M.D., 22 White St., Rockland

(2 years)

*Alternate*

Johan Brouwer, M.D., 56 Talbot Ave., Rockland (1 year)

#### Lincoln-Sagadahoc County Medical Society

*Delegates* — Richard I. Clark, M.D., 858 Washington St., Bath — Secretary

John F. Andrews, M.D., 20 West St., Boothbay Harbor

Ralph C. Powell, M.D., Damariscotta

*Alternates*

Edward L. Kinder, Jr., M.D., 1027 Washington St., Bath

Deane L. Hutchins, M.D., 69 Townsend Ave., Boothbay Harbor

### FOURTH DISTRICT

#### Kennebec County Medical Association

*Delegates* — Earle M. Davis, M.D., 2 School St., Waterville — Secretary

Hugh J. Mathews, Jr., M.D., 345 Water St., Gardiner

Richard L. Chasse, M.D., 173 Main St., Waterville

Vaughn R. Sturtevant, M.D., 33 College Ave., Waterville

Lorrimer M. Schmidt, M.D., Veterans Administration, Togus

Allan J. Stinchfield, M.D., 16 E. Chestnut St., Augusta

*Alternates*

Anthony E. Lepore, M.D., 72 Church St., Gardiner

Francis J. O'Connor, M.D., 4 Woodlawn St., Augusta

Paul H. Pfeiffer, M.D., 14 Gilman St., Waterville

Joseph A. Marshall, M.D., 177 Main St., Waterville

#### Somerset County Medical Society

*Delegates* — Harland G. Turner, M.D., R.F.D. No. 2, Norridgewock — Secretary

George E. Sullivan, M.D., R.F.D. No. 1, Fairfield

*Alternate*

Howard L. Reed, M.D., 68 Water St., Skowhegan

#### Waldo County Medical Society

*Delegates* — Seth H. Read, M.D., 15 Church St., Belfast — Secretary

Ward A. Albro, M.D., 27 Northport Ave., Belfast

*Alternate*

Carl H. Stevens, M.D., 18 Franklin St., Belfast

### FIFTH DISTRICT

#### Hancock County Medical Society

*Delegates* — Russell G. Williamson, M.D., Blue Hill Memorial Hospital, Blue Hill — Secretary

James H. Crowe, M.D., 121 Main St., Ellsworth

Herbert T. Wilbur, Jr., M.D., P. O. Box 175, Southwest Harbor



*Alternates*

Philip L. Gray, M.D., Blue Hill  
Elizabeth E. Williamson, M.D., Blue Hill

**Washington County Medical Society**

*Delegates* — Karl V. Larson, M.D., East Machias — Secretary

Samuel R. Webber, M.D., Calais

*Alternate*

Hazen C. Mitchell, M.D., Calais

**SIXTH DISTRICT****Aroostook County Medical Society**

*Delegates* — Clyde I. Swett, M.D., 18 Sherman St., Island Falls — Secretary

Thomas G. Harvey, M.D., 46 So. Main St., Caribou  
Raymond G. Giberson, M.D., 555 Main St., Presque Isle  
Arthur K. Carton, M.D., Market Square, Houlton

*Alternates*

Samuel Rideout, M.D., 3 Green St., Fort Fairfield

Thomas V. Brennan, M.D., 99 Hardy St., Presque Isle  
Charles G. Burr, M.D., 90 Court St., Houlton

**Piscataquis County Medical Society**

*Delegates* — Philip B. Thomas, M.D., 205 French St., Bangor — Secretary

Leonard G. Miragliuolo, M.D., 10 Maple St., Bangor  
Irvin E. Hamlin, M.D., Main St., East Millinocket  
Paul W. Burke, M.D., 5 High St., Newport  
Arthur N. Lieberman, M.D., 180 Broadway, Bangor  
Charles D. McEvoy, Jr., M.D., 316 State St., Bangor

*Alternates*

Hadley Parrot, M.D., 74 Somerset St., Bangor  
William M. Shubert, M.D., 317 State St., Bangor  
John J. Pearson, M.D., 100 So. Main St., Old Town  
Nelson P. Blackburn, M.D., 489 State St., Bangor

**Piscataquis County Medical Society**

*Delegates* — Isaac Nelson, M.D., Box 336, Greenville — Secretary

Linus J. Stitham, M.D., 50 Main St., Dover-Foxcroft

*Alternate*

Charles H. Lightbody, M.D., No. Main St., Guilford

## Technical Exhibits

**Abbott Laboratories, North Chicago, Illinois**

Representatives: Mr. A. J. Mack, Mr. P. F. Woodlock,  
Mr. J. L. Keliher

**The Alkalol Company, Taunton, Mass.**

Representative: Mr. Edward W. LeClair

**Ames Company, Inc., Elkhart, Indiana**

Representative: Mr. Donald Dewsnap

**Ayerst Laboratories, 245 Paterson Ave., Little Falls, New Jersey**

Representative: Mr. Edward McMahon

**The Baker Laboratories, Inc., 3940 Euclid Ave., Cleveland 15, Ohio**

Representative: Mr. Charles Butts

**Bicknell Photo Service, 517 Congress St., P. O. Box 2011, Portland, Maine**

Representative: Mr. Fred E. Wormell, Jr.

**Elmer N. Blackwell, Surgical Appliance Specialist, 565 Congress St., Room 207, Portland, Maine**

Representatives: Mr. Elmer N. Blackwell, Mr. Oakley R. Sanborn

**The Borden Company, 350 Madison Ave., New York 17, New York**

Representatives: Mr. Joseph Galvin, Mr. George W. Wagner

**Brewer & Company Inc., 67 Union St., Worcester 8, Mass.**

Representatives: Mr. Sidney L. Segal, Mr. Walter Spaulding

**Buffington's Inc., Worcester 8, Mass.**

Representative: Mr. C. W. Rich

**Burroughs Wellcome & Co. (U.S.A.) Inc., 1 Scarsdale Rd., Tuckahoe, New York**

Representatives: Mr. Charles D. Weed, Mr. William C. Murley

**Carnation Company, 5045 Wilshire Blvd., Los Angeles 36, California**

Representatives: Mr. William Galatas, Mr. Kenneth O. Spooner, Mr. Russell Mundi

**Ciba Pharmaceutical Products Inc., Summit, New Jersey**

Representative: Mr. John H. Angis

**The Coca-Cola Company, P. O. Drawer 1734, Atlanta 1, Georgia****The Dietene Company, Highway 100 at West 23rd St., Minneapolis 16, Minn.**

Representative: Mr. Donovan Lent

**Geo. C. Frye Company, 116 Free St., Portland, Maine**

Representatives: Mr. Milton S. Kimball, Mr. John F. Kimball, Mr. Hubert A. Honan, Mr. Sidney F. Cheney, Mr. Millard C. Webber, Mr. Irving F. Beers, Mr. Robert S. Cheney, Mr. Arthur R. Wickham

**Geigy Pharmaceuticals, P. O. Box 430, Yonkers, New York**

Representatives: Mr. H. Kern, Mr. D. D. Vacca, Mr. Thomas Cowan

**Hayden, Stone & Co., Casco Bank Building, Portland, Maine**

Representatives: Mr. Lawrence M. Burke, Mr. Richard W. Davis, Mr. Vere B. Crockett

**Lederle Laboratories, Pearl River, New York**

Representative: Mr. R. Maffei

**Eli Lilly and Company, Indianapolis 6, Indiana**

Representatives: Mr. Erle C. Webber, Mr. T. R. Perkins, Mr. W. W. Tulloch, Mr. J. E. Burrill

**E. F. Mahady Co., 225 Monsignor O'Brien Highway, Cambridge 41, Mass.**

Representative: Mr. Robert Blair

**Maine Surgical Supply Co., 233 Vaughan St., Portland, Maine**

Representatives: Mr. John H. Lacy, Mr. Robert Axelsen, Mr. Lawrence Gardiner, Mr. Philip Dana, Jr.

**The S. E. Massengill Company, Inc., 717 Fifth Ave., New York 22, N. Y.**

Representatives: Mr. Ralph F. Blais, Mr. L. A. Larivee

**McNeil Laboratories, Inc., Camp Hill Rd., Fort Washington, Pa.**  
Representatives: Mr. G. A. Stevens, Mr. J. A. Ruest, Mr. D. J. Fennelly, Jr.

**Mead Johnson Laboratories, Evansville 21, Indiana**  
Representatives: Mr. Kendall Dow, Mr. George A. McLay

**The Wm. S. Merrell Company, Cincinnati 15, Ohio**  
Representatives: Mr. Joseph F. Crozier, Mr. Kenneth W. McConnell

**The National Drug Company, 4663 Stenton Ave., Philadelphia 44, Pa.**  
Representative: Mr. William P. Dunbar

**The P. J. Noyes Company, Lancaster, New Hampshire**  
Representatives: Mr. H. Arnold Haynes, Mr. Vernon L. Keene

**Parke, Davis & Company, Detroit 32, Michigan**  
Representatives: Mr. Walter Nikitin, Mr. Merrill Dole

**Pfizer Laboratories, 630 Flushing Ave., Brooklyn 6, New York**  
Representatives: Mr. Richard O'Leary, Mr. Wallace Houston

**Thomas W. Reed Company, 533 Commonwealth Ave., Boston 15, Mass.**  
Representative: Mr. Richard Lund

**A. H. Robins Company, Inc., 1407 Cummings Drive, Richmond 20, Virginia**  
Representatives: Mr. Charles Kokernak, Mr. Steve Owen, Mr. Fred O'Brien

**Roche Laboratories, Nutley 10, New Jersey**  
Representatives: Mr. Roland G. Masse, Mr. Daniel J. Tarullo

**J. B. Roerig and Company, 536 Lake Shore Drive, Chicago, Illinois**  
Representatives: Mr. Clarence J. Johnson, Mr. John Hunt

**William H. Rorer, Inc., 4865 Stenton Ave., Philadelphia 44, Pa.**  
Representatives: Mr. Edward T. Croke, Jr., Mr. Jefferson M. Beward

**Ross Laboratories, Columbus 16, Ohio**  
Representatives: Mr. Harold Hutchinson, Mr. Richard Kaufman

**Sandoz Pharmaceuticals, Hanover, New Jersey**  
Representative: Mr. Tom Coffey

**W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa.**  
Representative: Mr. Joseph Juneman

**Schering Corporation, Bloomfield, New Jersey**  
Representatives: Mr. Floyd Selby, Mr. Jack Arlaud, Mr. Philip Segnitz

**G. D. Searle & Company, P. O. Box 5110, Chicago 80, Illinois**  
Representatives: Mr. J. H. Muncaster, Mr. J. J. Pash, Mr. A. L. Grimes

**Smith, Miller & Patch, Inc., 902 Broadway, New York 10, N. Y.**  
Representatives: Mr. Paul Woodward, Mr. Kenneth Mullen

**E. R. Squibb & Sons, 745 Fifth Ave., New York 22, N. Y.**  
Representative: Mr. C. E. Richardson

**Stimpson Copy Products Inc., 652 Congress St., Portland, Maine**  
Representative: Mr. William Heemskerk

**The Stuart Company, 3360 East Foothill Blvd., Pasadena, California**  
Representatives: Mr. Patrick J. Lane, Mr. Leonard F. DeLosh

**Surgeons' and Physicians' Supply Co., 961 Commonwealth Ave., Boston 15, Mass.**  
Representatives: Mr. Charles H. Joy, Mr. John R. Stutz, Mr. David Fenner

**The Upjohn Company, 17 Deerfield St., Boston 15, Mass.**  
Representative: Mr. William A. O'Connell

**U. S. Vitamin & Pharmaceutical Corp., 250 East 43rd St., New York 17, N. Y.**  
Representatives: Mr. William G. Moran, Jr., Mr. John R. Winfield

**Warner-Chilcott Laboratories, Morris Plains, New Jersey**  
Representatives: Mr. William H. Comyns, Mr. Joseph B. Fallon

**The Warren-Teed Products Company, 582 West Goodale St., Columbus 15, Ohio**  
Representatives: Mr. Charles F. Vaughan, Mr. Robert W. Roffler

**Winthrop Laboratories, 1450 Broadway, New York 18, N. Y.**  
Representatives: Mr. E. F. Kittredge, Mr. R. W. Blanchard

## Scientific and Educational Exhibits

Maine Chapter, American Academy of General Practice

Maine Society of Anesthesiology

Maine Chapter, Academy of Pediatrics

Maine Cancer Society

Maine Heart Association

Associated Hospital Service of Maine

Tobacco Industry Research Committee

Maine League for Nursing

Maine State Nurses' Association

Pratt Clinic — New England Center Hospital

Allan D. Callow, M.D., Associate Professor of Surgery, Tufts University School of Medicine

Exhibit on Terramycin

Timothy A. Lamphier, M.D., Medical Investigation and Research Associates, Inc., Boston

The New England Home for little wanderers





DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

Department of Health and Welfare

Tuberculin Testing In Aroostook County

MARGUERITE C. DUNHAM, M.D.\*

A tuberculin testing project has been underway in Aroostook County for the past five years. The initial phases of the work, with details of the exact procedures followed, materials used, tuberculin test equivalents and a survey of the preliminary results were outlined first in a paper on this subject in the October, 1957 issue of The Journal of the Maine Medical Association. The results of an expansion of this study made in 1958 and support of the conclusion drawn from the study of the previous year that the rate of tuberculosis in Aroostook County is not excessively high were summarized in a second paper published in the August, 1958 issue of The Journal.

The original purpose of this testing was to obtain information about the incidence and prevalence of tuberculosis in Aroostook County, an area believed to have an unusually high rate as compared to the rest of the State. As indicated in the articles previously referred to, the early testing failed to disclose any unusual tuberculin reactor rate that might indicate high infection rates in the adult population.

In 1957 and 1958 the testing was limited to school children in first grades in Houlton, Van Buren and Madawaska. In view of the results in the limited surveys, it was decided to expand the testing area in 1959 in order to provide a more extensive basis for statistics.

TABLE I					
SUMMARY OF RESULTS OF TUBERCULIN TESTING, AROOSTOOK COUNTY, 1959					
Area	Total in Group	Total Tested	Percent Tested	Number Positive	Percent Positive
1st GRADE					
North . . . . .	650	575	88	1	0.2
Central . . . . .	1087	932	86	7	0.7
South . . . . .	440	375	85	2	0.5
Total . . . . .	2177	1882	87	10	0.5
6th GRADE					
Van Buren . . . . .	120	117	98	3	3.1
Grand Isle . . . . .	29	25	86	2	8.0
8th GRADE					
Houlton . . . . .	108	102	94	5	5.3
Oakfield . . . . .	16	14	87	2	14*
Caribou . . . . .	197	193	97	5	2.6
12th GRADE					
Van Buren . . . . .	66	63	96	3	3.1
Houlton . . . . .	78	72	95	5	5.3
Oakfield . . . . .	12	11	91	2	18*
Caribou . . . . .	136	135	99	8	5.9

\*High rates due to family contacts of one active case in small school of small town.

A program to test with tuberculin nearly all first grade groups in Aroostook County as well as some eighth and twelfth grade classes was undertaken.

A summary of the results of this more extensive survey may be found in Table I. Here again, it was found that Aroostook County children have a reactor rate no higher than that established for the nation as a whole and that insofar as the tuberculin reactor rate reflects the extent of adult infection, there is apparently no unusual amount of active infection in this district.

Throughout all of the surveys, close and very helpful cooperation has been provided by the Aroostook County Tuberculosis and Health Association with the Executive Secretary having chief responsibility for preliminary arrangements with school superintendents and for carrying out educational programs prior to testing. District Health office personnel were responsible for recording and analyses of records. The actual testing itself was done either by the District Health Office personnel with the prior consent of local private physicians or by a local physician himself when he so chose. In either case the testing was done in accordance with the plan outlined in "Policy Statement on the Tubercu-

lin Test and Its Use" prepared by the Maine Trudeau Society and published by the Maine Tuberculosis and Health Association.

State public health nurses and local health department nurses did all checking of reactors. Among first grade reactors, it was possible to establish a history of contact in nearly all instances with a known case of tuberculosis. Such a history was more difficult to obtain with older reactors.

The writer was unable to observe any relationship of size of reactions to severity of infection. This statement must be qualified by emphasis that it is only an impression and further investigation to support any valid conclusion would certainly be required.

In 1960 and 1961 the survey has been continued on a less extensive, more intensive basis and has served further to corroborate the results of the earlier testing. It is planned to continue parts of this project for several years to come with the addition of a new feature — a recent converter register. It is expected to have available reports on these activities at a later date.

\*District Health Officer

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### NURSING EDUCATION, MAINE, 1961 — *Continued from Page 173*

5. Let us, in fact, deal effectively and realistically with the present, and not wallow sentimentally in the past.

6. Let us, if we dislike women, or have an innate suspiciousness of intelligent educated people, not allow these prejudices to so fog our vision that we do not perceive the wisdom of proposals when they are presented by women with Ph.D.'s.

7. Let us stand shoulder to shoulder with nurses as they pursue their program of self improvement and elevation of standards of practice, and support them in their battle to build a public image of the nurse as an important professional person, realizing all the while that if the role of nurse is a sufficiently significant and competitively attractive one, the problem of a shortage will dissolve.

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144 State Street, Portland, Maine



## In Memoriam

### *Androscoggin County*

William J. Fahey, M.D.	Lewiston
Ward J. Renwick, M.D.	Auburn
Gard W. Twaddle, M.D.	Auburn

### *Aroostook County*

Eugene H. Doble, M.D.	Presque Isle
Joseph A. Donovan, M.D.	Belmont, Massachusetts
Penry L. B. Ebbett, M.D.	Houlton

### *Cumberland County*

Frank E. Carmichael, M.D.	Portland
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### *Hancock County*

Raymond V. N. Bliss, M.D.	Blue Hill
---------------------------	-----------

### *Kennebec County*

Wilson H. McWethy, M.D.	Augusta
Arch H. Morrell, M.D.	Augusta
Norman B. Murphy, M.D.	Augusta

### *Penobscot County*

Luther S. Mason, M.D.	Bangor
-----------------------	--------

### *Piscataquis County*

John B. Valentine, M.D.	Dover-Foxcroft
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### *Somerset County*

George E. Young, M.D.	Skowhegan
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### *York County*

Laura B. Stickney, M.D.	Saco
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Secretary, Donald L. Anderson, M.D., Lewiston

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## County Society Notes

## PENOBSCOT

April 18, 1961

A meeting of the Penobscot County Medical Society was held at the Tarratine Club in Bangor on April 18, with President-elect Dr. Clement S. Dwyer, presiding.

Dr. Norman Zamcheck of the Boston City Hospital and Harvard Medical School, the speaker of the evening, was introduced by Dr. James D. Clement, Jr. Dr. Zamcheck spoke on "Uses and Abuses of Liver Function Tests" and "New Methods of Studying Gastro-Intestinal Function."

Resolutions for Dr. Luther S. Mason and Dr. Henry W. Ball were read to the society.

Dr. Dwyer announced that the committee for the Emergency Call System has met twice with Dr. Richard C. Wadsworth.

Dr. Charles D. McEvoy, Jr. reported to the society on the Interim Meeting of the House of Delegates of the Maine Medical Association and Dr. Leonard G. Miragliuolo presented the recommendations proposed by the Health Insurance Committee which are as follows:

- That M.M.A. Group Insurance plan be changed to Blue Shield "C."
- That provisions be made in order to cover "over-age 19 dependents."
- That major medical coverage be available through Blue Shield in connection with Phoenix Insurance Company.

PHILIP B. THOMAS, M.D.  
*Secretary*

## ANDROSCOGGIN

April 20, 1961

The Androscoggin County Medical Association met at the Central Maine General Hospital in Lewiston on April 20, with 23 members present.

The minutes of the March meeting were approved as read and Dr. Daniel R. Shields reported for the M.M.A. Health Insurance Committee.

A fund for needy members was discussed by Dr. Merrill S. F. Greene. This was referred to the finance committee for study and recommendations.

Dr. Clement A. Hiebert of the Maine Medical Center in Portland, the speaker of the evening, was introduced by Dr. George B. O'Connell. Dr. Hiebert spoke on "The National Health Plan of Great Britain." A question and answer period followed.

DONALD L. ANDERSON, M.D.  
*Secretary*

## WASHINGTON

May 15, 1961

A meeting of the Washington County Medical Society was held at the Calais Hospital on May 15, with eleven members and guests present.

Dr. Clement S. Dwyer, Anesthesiologist from the Eastern Maine General Hospital in Bangor, was introduced by the President, Dr. Rowland B. French. Dr. Dwyer spoke on "Closed Chest Cardiac Resuscitation." A film was shown in connection with the program which was followed by a period of active discussion.



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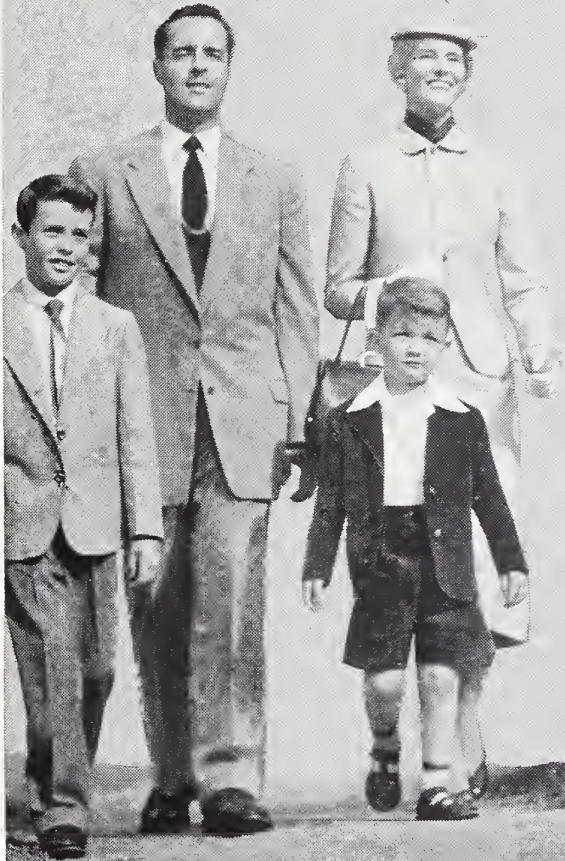
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May 16, 1961

Fifteen members and guests were present at the combined meeting of the Washington County and the St. Croix Medical Societies which was held at the Charlotte County Hospital in St. Stephen, N.B. on May 16.

Dr. Edwin Johnston of St. Stephen, N.B. presented a case of "Cirrhosis of the Liver" which was discussed by Dr. Alexander Aronoff, Consultant in Medicine, Queens Mary Veterans Hospital, Montreal, Province of Quebec. Dr. Aronoff then discussed Infectious Hepatitis and Cirrhosis. He covered the various aspects of diagnosis and treatment particularly as to diet. He stated that some of the newer drugs have produced jaundice which usually seems reversible but total damage to the liver is as yet unknown.

Thirty-three members and guests attended a dinner at Heslins Lodge in Calais, Maine.

KARL V. LARSON, M.D.  
*Secretary*

## CUMBERLAND

May 18, 1961

A meeting of the Cumberland County Medical Society was held at Valle's Steak House in Portland, Maine on May 18. After a social hour and dinner, the meeting was called to order by the President, Dr. Robinson L. Bidwell.

Drs. James E. Drexler of Freeport and Robert G. Mohlar of Brunswick were elected to membership. Drs. Harold G. Kretzing and John A. Perri of Portland and Gerald M. Waggoner of South Portland were elected to affiliate membership.

Dr. George O. Chase of Portland reported for the Medical Careers Committee and gave a spirited description of a meeting with high school seniors which was held at the Maine Medical Center.

A delegation from the Greater Portland Chamber of Commerce then spoke consecutively on desirability of physicians becoming members of the Chamber.

ALBERT ARANSON, M.D.  
*Secretary*

## KENNEBEC

May 21, 1961

A meeting of the Kennebec County Medical Association was held at the Augusta Country Club in Augusta on May 21.

Dr. George Papadopoulos of the Connecticut State Hospital in Middletown, Connecticut was elected to membership.

Dr. Daniel F. Hanley, Executive Director of the Maine Medical Association, presented slides of the Rome Olympics in 1960.

EARLE M. DAVIS, M.D.  
*Secretary*

## New Members

## CUMBERLAND

James E. Drexler, M.D., Ward Town Road, Freeport  
Harold G. Kretzing, M.D., 331 Veranda Street, Portland  
Robert G. Mohlar, M.D., 11 McKen Street, Brunswick  
John A. Perri, M.D., 331 Veranda Street, Portland  
Gerald M. Waggoner, M.D., RMS, Fort Williams, South Portland

## KENNEBEC

George Papadopoulos, M.D., Connecticut State Hospital, Middletown, Connecticut

## Deceased

## HANCOCK

Raymond V. N. Bliss, M.D., P.O. Box 361, Blue Hill, May 2, 1961

## News, Notes and Announcements

**State of Maine Board of Registration of Medicine  
Secretary — Daniel F. Hanley, M.D.,  
Brunswick, Maine**

**Physicians Licensed to Practice Medicine and  
Surgery in the State of Maine  
March 7-9, 1961**

## THROUGH EXAMINATION

Semir Abbasoglu, M.D., St. Michael's Hospital, 306 High Street, Newark, New Jersey

Elias Adamopoulos, M.D., Mercy Hospital, Pittsburgh, Pennsylvania

Ciro Alfaro, M.D., Mount View Hospital, Lockport, New York

Basil Amfilohiadis, M.D., St. Catherine's Hospital, 133 Bushwick Avenue, Brooklyn, New York

Giuseppe Ascoli, M.D., Fordham Hospital, Southern Boulevard and Crotona Avenue, Bronx, New York

Mary Connolly, M.D., V.A. Hospital, Rutland, Massachusetts

Ernesto D'Agostino, M.D., 45 Beechwood Avenue, Port Washington, New York

Gianfranco Dal Santo, M.D., 12 Commonwealth Avenue, Boston, Massachusetts

Paul U. Fechner, M.D., 2423 Yost Boulevard, Ann Arbor, Michigan

Karl Gossner, M.D., New Jersey State Hospital, Trenton, New Jersey

Kaykhosrow Hormozdi, M.D., Lincoln Hospital, East 141st Street and Concord Avenue, New York, New York

Thomas Jakobovits, M.D., 92 Eleanor Street, Chelsea, Massachusetts

Reuben Leitman, M.D., 2 Central Avenue, Lewiston, Maine

Marie L. Levy, M.D., 2223 H Street, N.W., Washington, D. C.

Jesus S. Manlapaz, M.D., Beth Israel Hospital, 10 Nathan D. Perlman Place, New York, New York



Salvatore Miano, M.D., 382 Elm Street, New Britain, Connecticut

Joyce E. Millette, M.D., Foxborough State Hospital, Foxborough, Massachusetts

Alfredo Monsivais, M.D., Box 724, Augusta, Maine

Peter G. Petrou, M.D., Apartment #10 Shadow Knoll, Pleasant Valley, Wheeling, West Virginia

A. Dewey Richards, M.D., 10 Angell Avenue, South Portland, Maine

Aida S. Schaefer, M.D., 536-D West Amerige, Fullerton, California

George P. Shaw, M.D., 67-A Foss Acres, Great Lakes, Illinois

Selic Soroka, M.D., St. Joseph's Hospital, 2117 Carson Street, S.S., Pittsburgh, Pennsylvania

G. Douglass Timms, M.D., 393 State Street, Bangor, Maine

Antonio I. Vagnucci, M.D., 550 First Avenue, New York, New York

#### THROUGH RECIPROCITY

Rudolf Hoene, M.D., 125 Earle Street, Elkins, West Virginia

John E. Knowles, M.D., 900 State Street, Bangor, Maine

Mario J. Mariuz, M.D., Rockland State Hospital, Orangeburg, New York

Arkadij Oceretko, M.D., Wyoming General Hospital, Mullens, West Virginia

Harry M. K. Peddie, M.D., 313 Virginia Avenue, Des Moines, Iowa

Joseph J. Rando, M.D., 8210 Sixth Avenue, Brooklyn, New York

Anne C. D. Richman, M.D., Pulmonary Disease Branch, Armed Forces Institute of Pathology, Washington, D. C.

John E. Rigby, M.D., St. Andrews, New Brunswick, Canada

Talivaldis Rubins, M.D., 70 Quinlan Avenue, Staten Island, New York

Richard W. Taylor, M.D., 242 Douglass Street, Portland, Maine

Louis N. Taxiarchis, M.D., Black Point Road, Scarborough, Maine

Henry O. White, M.D., 32 Gaspee Point Drive, Warwick, Rhode Island

### Department Of Health And Welfare Division Of Maternal And Child Health Including Services For Crippled Children

#### Orthopedic Clinics

Portland — Maine Medical Center

9:00 a.m.: July 10, Aug. 14, Sept. 11

Lewiston — Central Maine General Hospital

9:00 a.m.: July 21, Aug. 18, Sept. 15

Rumford — Community Hospital

1:30 p.m.: Sept. 20

Rockland — Knox County Hospital

1:30 p.m.: Aug. 17

Machias — Washington County Normal School

1:30 p.m.: July 19

Presque Isle — Northern Maine Sanatorium

9:00 a.m. and 12:30 p.m.: July 12, Sept. 12

Houlton — Aroostook General Hospital

9:00 a.m.: July 11

Fort Kent — Peoples Benevolent Hospital

10:00 a.m.: Sept. 13

Bangor — Eastern Maine General Hospital

1:00 p.m.: July 27, Sept. 21

(Several will be two-session clinics)

Augusta — Augusta General Hospital

1:00 p.m.: Aug. 24

#### Cardiac Clinics

Portland — Maine Medical Center

9:00 a.m.: Every Friday (Holidays Excepted)

Bangor — Eastern Maine General Hospital

9:00 a.m.: July 14, 28, Aug. 11, 25, Sept. 8, 22

#### Cleft Palate Evaluation Clinics

Portland — Maine Medical Center

10:00 a.m.: Aug. 8

#### Pediatric Clinics

Bangor — Eastern Maine General Hospital

1:30 p.m.: July 28, Aug. 25, Sept. 22

Fort Kent — Peoples Benevolent Hospital

10:00 a.m.: July 26

Presque Isle — Northern Maine Sanatorium

1:30 p.m.: Sept. 27

Waterville — Thayer Hospital

1:30 p.m.: July 11, Aug. 1, Sept. 5

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### Clinics For Mentally Retarded Pre-School Children

Waterville — Thayer Hospital

9:00 a.m.: July 5, 19, Aug. 2, 16, 30, Sept. 6, 20

### Adolescent Clinics

Portland — Maine Medical Center

1:00 p.m.: July 26, Aug. 23, Sept. 27

### Trudeau School Of Tuberculosis And Other Pulmonary Diseases

The Trudeau School of Tuberculosis and Other Pulmonary Diseases will hold its forty-sixth session at Saranac Lake, New York from June 5 through 23, 1961. This annual post-graduate course for physicians, conducted under the auspices of the Trudeau Foundation and supported by the Hyde Foundation, is able to provide outstanding instruction at a minimal tuition of \$100.00 for a three weeks session.

In addition to the local medical faculty consisting of some thirty doctors from Saranac Lake, Ray Brook State Tuberculosis Hospital and the Sunmount Veterans Administration Hospital, about thirty of the leading teachers and investigators in the Eastern United States and Canada are brought to Saranac Lake each year to lecture or to conduct seminars in their special fields. Approximately half of the time is devoted to tuberculosis and the other half divided between such subjects as silicosis, pulmonary fibrosis, emphysema, fungus infection, sarcoidosis, pneumonias and intrathoracic tumors.

The enrollment is necessarily limited and therefore applica-

tion should be made early. A few scholarships are available for those who qualify.

Inquiries should be addressed to the Secretary, Trudeau School of Tuberculosis and Other Pulmonary Diseases, Box 670, Saranac Lake, New York.

### American College Of Chest Physicians

The twenty-seventh Annual Meeting of the American College of Chest Physicians will be held at the Commodore Hotel, New York City, Thursday, June 22 through Monday, June 26. Scientific sessions will open Saturday, June 24 and will continue through Monday, June 26.

A joint session with the Section on Diseases of the Chest of the American Medical Association will be held at the Coliseum, Monday, June 26. This will be the first joint meeting in the history of the two societies.

The popular Fireside Conferences, also to be a joint session sponsored by both the AMA and the College, will be held at the Commodore Hotel, Monday evening, June 26.

### W. B. SAUNDERS COMPANY

features the following recent books in their full page advertisement appearing elsewhere in this issue:

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#### RUBIN — THORACIC DISEASES

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# The Journal of the Maine Medical Association

Volume Fifty-Two

Brunswick, Maine, July, 1961

No. 7

## A Program For The Prevention And Control Of Staphylococcal Infections In Hospitals

FENNELL P. TURNER, M.D.\*

### INTRODUCTION

For more than a decade the medical world has watched the gradual emergence of antibiotic-resistant staphylococci. The occasional appearance of super-infections with resistant organisms, and of staphylococcal enteritis in patients where the normal flora has been so altered that strains of staphylococci capable of producing potent quantities of exotoxin have been allowed to gain dominance were first viewed with curiosity and then with increasing alarm<sup>1</sup>. These sporadic developments were soon followed by reports of scattered epidemics of puerperal mastitis and of staphylococcal infections in the newborn, as well as of the increased incidence of staphylococcal postoperative wound infection and of the frequent development of staphylococcal pneumonia in debilitated patients. Whereas fears engendered by these reports were at first allayed by the concomitant development of new antibiotics and antibacterial drugs, the increasing realization that many strains of micrococci were resistant to one or more, and frequently all, such drugs produced more general alarm.

In 1956 an epidemic of a different variety of staphylococcal infection took place at the VA Hospital at Togus. During this year large numbers of furuncles and carbuncles occurred among patients and hospital personnel throughout the entire hospital. These infections were at first thought to be of little significance,

but as the months went by it became clear to everyone that they had occurred in truly significant numbers. A Committee on Hospital Infections was therefore established, and a clinical and environmental survey was undertaken.

As a wealth of material on the epidemiology and treatment of staphylococcal infections is available in the literature, it is with some hesitance that the findings of this investigation are submitted for publication. It is hoped, however, that by describing some of the deficiencies found in our own hospital environment and that by enumerating the steps that were taken to eradicate these deficiencies, other hospitals throughout the area who have not yet been confronted with this problem will be benefited.

*Description of Hospital facilities.* The Hospital at Togus is an 869-bed hospital center with a general medical and surgical hospital of 305 beds in one building and with a neuropsychiatric hospital of 564 beds in a separate building. The two buildings are connected by a covered tunnel, and both hospitals are serviced by the same essential services such as laboratory, X-ray, and physical therapy. The average patient in the general medical and surgical hospital is about 50 years old, and the average in the neuropsychiatric section is 52. On several wards the average age is much higher; 64 and 66 in two medical wards and 61 in one ward in the NP hospital. One characteristic of a Veterans Administration hospital is the presence of large numbers of elderly and debilitated patients who in general represent one of the groups of persons most

\*Chief, Surgical Service and Executive Director, The Committee on Hospital Infections, Veterans Administration Center, Togus, Maine.

susceptible to staphylococcal infection. Secondly, the average length of stay is apt to be higher than found in most community hospitals for the following reasons: (a) many patients are admitted who otherwise would reside in nursing homes; (b) many patients are kept in the hospital with terminal illnesses; and (c) many other patients with severe illnesses of long duration are kept in a VA hospital because they have been unable to be hospitalized for prolonged periods in the community for financial reasons. A final factor more specifically characteristic of this particular hospital center is that the facilities are relatively crowded, and there are a limited number of rooms of private, semiprivate, or cubicle variety.

*Clinical Survey.* The clinical survey took place from August, 1956, to May, 1957. During this period of study a total of 70 staphylococcal infections were

however, that small furuncles had been present in a number of individuals, both patients and personnel, but that they had subsided spontaneously and cultures had never been obtained from them. This is mentioned as it is believed to be part of the total picture. For example, one patient admitted for repair of hernia, following operation mentioned to the ward physician that he had had a small boil in his left axilla. When asked if he had ever had boils before, he stated that the only such infections he had ever had were in April of the preceding year, at which time he had been admitted to the same hospital for observation. He said that boils had occurred on the back of his head and on the back of his shoulders at that time but that he had not mentioned this to his physician, and therefore the occurrence had not been reported in the chart. Whereas the infections occurred in patients and per-

TABLE I  
LOCATION OF FURUNCLES & CARBUNCLES IN 70 PATIENTS  
8-MONTHS PERIOD 1956-1957

Hospital Patients	Head & Neck	Upper Extremities	Chest, Back Abdomen & Perineum	Lower Extremities
52	Scalp 2 Forehead 1 Eyebrow 1 Nose 4 Lip 2 Chin 1 Neck 2	Shoulder 1 Axilla 1 Elbow 2 Forearm 1 Finger 1	Chest 1 Back 7 Abdomen 4 Perineum 1	Buttocks 11 Thigh 2 Leg 3
		"Furunculosis" 4		
Hospital Employees				
18	Ear 1 Nose 1 Face 2	Arm 1 Finger 6	None	Buttocks 4 Thigh 2 Foot 1

reported and studied by the Committee (Table I)\*. The great majority of these lesions consisted of furuncles or boils, and there were a lesser number of large abscesses or carbuncles. In a number of instances multiple infections were present in the same patient. There were also a small number of persons with generalized furunculosis. Although only 70 cases were reported during this period, it was agreed that a number of other cases involving staphylococcal infection had undoubtedly occurred in the hospital during this period but had not been reported. These lesions could not have been of great magnitude as surgical treatment had not been required. The Staff was without doubt,

sonnel throughout the entire hospital, the largest number of infections occurred on wards where the patients had the highest average age and where there were the largest number of chronically diseased patients who had been hospitalized for long periods of time. The largest number of staphylococcal infections in personnel were also found to be in those persons who worked on those particular wards. It was of interest that there was one ward, an isolation unit for the care of tuberculosis, which did not report any staphylococcal infections during the period of study. It was customary on this ward for all personnel and visitors to be gowned and masked, and the patients themselves were masked whenever they were transported to other parts of the hospital. The linen of this ward was handled separately from the linen in the remainder of the hospital. The traffic throughout the ward was of less magnitude. The

\*Other staphylococcal infections such as pneumonia, empyema, sinusitis, urinary tract infections, and postoperative wound infections had occurred in lesser numbers during this period but have not been included in this tabulation.



patients had virtually no contact with other patients throughout the hospital, and it is also probably significant that the patients on this floor rarely received antibiotic treatment with the exception of specific drugs for the treatment of tuberculosis. During this eight-months period, staphylococcal infections were found to occur throughout the hospital month after month with little change in incidence with the exception that there was a slight increase in number in the months of December and January. During this same period post-operative wound infections were not found to have been a problem of great magnitude. Although scattered staphylococcal wound infections had occurred, they had not reached such frequency as to cause general alarm. Infections in clean wounds have been held within acceptable limits for the past decade at the VA Hospital, Togus. For example, among 815 consecutive operations for all types of herniae in the groin, both inguinal and femoral, with 15 percent of the operations being carried out for bilateral defects, there were only eight wound infections (0.98 percent); six of these were trivial infections; and only two of them were so significantly serious as to require re-opening and drainage of the wound. This compares favorably with the recommended rate for clean wound infections<sup>2</sup>. Nevertheless, it should be pointed out that five of these eight infections did occur in 1956 and 1957, with a wound infection rate in 245 hernia operations of 2.04 percent.

*Environmental cultures.* At the time of this clinical survey environmental cultures were also taken from many areas throughout the hospital. Staphylococci, although ubiquitous, generally were found to be of the less pathogenic coagulase-negative variety. Coagulase-positive micrococci were found, however, on a number of toilet seats, on the blankets and bedrails of infected patients, and in laundry baskets. Nasopharyngeal cultures were then carried out on personnel. Sixty-five doctors, dentists, nurses, and aides were surveyed. Fifty-three percent of this group were found to be positive for staphylococcus. Positive cultures were found in 67 percent of the ward nurses, 48 percent of the nurse's aides, 47 percent of the doctors, and 34 percent of the nurses and aides working in the Operating Room. Coagulase studies and phage typing were not carried out. Cultures were also taken from 28 persons employed in administrative positions in the Regional Office. Forty-two percent of these nonmedical personnel were positive for staphylococcus.

*Conclusions Drawn from the Survey.* After studying these data the Committee concluded that while a true epidemic could not be said to exist micrococci of several variants had become sufficiently endemic in our hospital environment as to represent a threat to all the persons who resided or worked there. Particularly significant was the finding of large numbers of antibiotic-resistant organisms. This hospital had long been proud of the fact that the nursing and housekeeping procedures were of high quality. So far as visible

dirt was concerned the hospital was clean. The Committee however suspected that deficiencies of aseptic and antiseptic technique were present. It was agreed that the whole problem of patient care on the ward should be studied from the use of antiseptic agents to the changing of bed linen and blankets and to the carrying out of wound dressings. It was also agreed that attitudes of the Staff towards the use of antibiotic agents would be looked into.

The Committee thought it significant: (1) that infection in patients occurred most frequently on the backs and buttocks; (2) that infections in employees occurred most frequently on exposed portions of the body; (3) that infections occurred most frequently on wards which had long-term patients; (4) that the majority of the employees who had had such infections worked on wards where long-term patients were cared for; (5) that viable staphylococci had been cultured from many areas throughout the hospital including floors, toilet seats, bedrails, blankets, laundry baskets, clean linen, etc.; (6) that nasopharyngeal cultures had shown a high incidence of staphylococcus among personnel who cared for patients and a relatively low incidence in personnel who were not so closely involved with patient care on the wards; (7) the Committee was also impressed by the finding in some individuals of a pure growth of pyogenic staphylococci in nasopharyngeal cultures.

*Recommendations of the Committee.* The Committee recommended a return to the careful aseptic techniques of former years, a review of the use of antiseptic agents and soaps, a survey of areas in the hospital where drafts of air might be a factor in the spread of viable bacteria, a study of present housekeeping and laundry practices. Care was advocated in the management of debilitated patients and of patients with chronic diseases such as diabetes, nephritis, and chronic respiratory tract infections. Particular care was stressed in the care of the injured patient and the one receiving steroid therapy. It was recommended that, when established infections requiring antibiotic therapy occurred, these patients be treated with appropriate agents and in doses sufficient to rapidly cure the infection. On the other hand, the routine prophylactic use of antibiotics was condemned, and it was advocated that this practice be carried out only for specific, well-justified indications. It was recognized that there were two specific goals of any program aimed at the epidemiological control of staphylococcal infections. The first one would be the protection of the susceptible person from the possibility of acquiring such an infection. The second goal would be related to the isolation and care of the already infected patients.

Specific recommendations were then drawn up by the Hospital Infections Committee and presented to the Staff for approval. The program was approved after some discussion, and it has also been added to and amended to some extent over the following several

years. These recommendations, together with various changes and additions in hospital equipment and facilities are listed below.

#### PROGRAM FOR CONTROL OF STAPHYLOCOCCAL INFECTIONS

1. *Control of air-borne bacteria by control of convection currents throughout the hospital.* It was recognized that the practice of leaving doors open throughout the hospital including doors into the Operating Suite would have to be eliminated. In particular, doors to isolation units and doors to the postoperative recovery unit should be kept closed at all times. The Operating Room Suite has been air-conditioned, which has eliminated the problem of flies almost in its entirety. Together with elimination of this problem, this has also made it possible for all doors and windows to the Operating Room suite to be kept closed at all times. Stairwell fire doors have been installed throughout the main corridor of the general hospital; and this, it is believed, has helped materially in eliminating convection currents from the ground floor up to the seventh floor of the hospital. The practice of leaving doors open on the fire-escape exits for circulation of air has also been eliminated. A final source of convection currents with possible spread of bacteria has been through the hospital laundry chute. Plans have been made to disinfect the laundry chute periodically by means of an antiseptic aerosol spray.

2. *Disposal of hospital laundry and linen.* All linen is now bagged before being placed in the laundry chute. The occasional practice of dumping unbagged linen down the chute has been eliminated. Infected linen is placed in specially marked laundry bags separate from the remainder of the hospital linen, and on arrival at the laundry it is cared for separately. Laundry personnel are gowned and gloved and wear masks while sorting infected linen. The linen is then washed with cold water to remove stains, following which it is washed in water kept at 160 degrees by live steam. Bacteriostatic and lint-controlling agents are used in the final rinse of the washing cycle. All laundry baskets are now of the vinyl plasticized type, and these are washed daily with germicidal agents prior to use. Laundry baskets for clean linen are kept separate from those for soiled linen. After being placed in freshly sterilized laundry baskets, the clean linen is covered for the purpose of transportation back to the hospital. Blankets are cleaned in a similar fashion (although at a lower temperature) after the discharge of each patient, and all new admissions have fresh blankets. Blankets are also cleaned periodically when used on patients who have been hospitalized for any length of time. All mattresses and pillows are covered with plastic covers, and these are inspected daily in the general hospital and weekly in the neuropsychiatric section. These plastic covers are periodically washed with germicidal agents. Radio pull cords at the bedside are covered with

plastic material, and these together with the patients' pull cords are washed periodically. All blood-pressure cuffs are changed periodically, and stethoscopes are frequently cleaned with germicidal solution. Telephone carts are not permitted in isolation units, and telephone receivers are periodically cleaned with germicidal solution.

3. *Floors and walls.* New and improved techniques for disinfection of floors were established. In the Operating Room the floors are flooded with germicidal solution, and the fluid is then removed by means of a wet-pickup vacuum cleaner. Wet separator type vacuum cleaners are used in several other locations. Floors throughout the hospital are cleaned with germicidal solution. Cleaning mops and rags are oiled with germicidal oil prior to use. Mopheads and brooms are cleaned and changed periodically. A wall-washing program was undertaken, and walls are now cleaned with germicidal solutions periodically. Cubicle curtains are handled in the same manner as linen.

4. *Hand-washing facilities.* Foot-operated soap dispensers and foot-operated sinks have been installed in all dressing rooms, utility rooms, and in certain other strategic locations. Foot-operated soap dispensers have also been made available in all doctors' and nurses' toilets. Hand-operated soap dispensers are available in patients' lavatories. Squeeze bottles for germicidal soap are available in showers. Deep sinks have been installed in dressing rooms together with foot controls. All liquid soap is medicated with hexachlorophene, and bar soap is similarly medicated with hexachlorophene for the purpose of bacteriostasis.

5. *Isolation units.* Isolation units have been established in both general and neuropsychiatric hospitals for the care of patients with staphylococcal infections. Standard isolation technique with gowns, caps, and masks is used; and hygienic measures in the washing of hands are observed. Staphylococcal pneumonia is also isolated as are various traumatic wounds, bed sores, and burns if such lesions are infected with staphylococci and represent a source of contamination to the environment. Decision as to when a patient should be isolated is left to the discretion of the individual physician. It is evident that the mere reporting of a positive culture is not always sufficient indication to warrant isolation of any particular patient. If sufficient purulent discharge, whether by nasal discharge, coughing or wound drainage, is present so as to make it impossible to prevent the shedding of purulent organisms to the immediate environment, isolation then becomes necessary. A urinary-tract infection, a furuncle which is not draining pus, and a superficial wound infected with a mixed flora which can be adequately controlled by means of good nursing techniques and occlusive dressings would be examples of patients not isolated at the present time. Infections with coagulase-negative staphylococci are also not isolated.

6. *Dressing technique — sterile supplies.* There has



been renewed emphasis on aseptic techniques. Wounds are not touched with the hands. Instrument technique is used. In infected cases, rubber gloves are frequently worn. With complicated dressings nursing assistance is obtained so as to avoid the possibility of contaminating the dressing carriage. All dirty dressings are placed in paper bags for incineration. Instruments following use are immediately placed in basins of antiseptic solution. The treatment rooms have been provided with an increased number of Mayo stands and stools so that dressings can be more efficiently carried out. The mattresses on dressing tables are now covered with disposable paper sheets. These past several years have also seen increasing use of prepackaged and sterilized supplies of dressings, dressing sets, bandage scissors, and transfer forceps throughout the hospital. In some instances frequently used instruments such as transfer forceps are kept in Bard-Parker solution. Disposable syringes, needles and cartridges for certain medications are now in common use. The adoption of sterile plastic drainage bottles and plastic catheters has resulted in the elimination of glass gallon jugs and rubber tubing.

7. *Operating Room Practices.* Operating Room masks are sterilized and available in cans adjacent to the scrub sinks. Masks are changed between cases, and if a person has a heavy growth of staphylococcus he is advised to wear a double mask. Scrub-brush dispensers have been obtained for the Operating Rooms, and this has resulted in the elimination of the basins, which were subject to contamination by repeated use. The practice of wearing scrub suits throughout the hospital corridors is frowned upon; and when found necessary they are changed prior to re-entering the operating rooms. All personnel now have special conductive operating room shoes, and it is now unnecessary for street shoes to be used in this location. In infected cases the wheels of the stretcher and shoes of the personnel are cleaned with germicidal solution when they are leaving the Operating Room. Detergent germicides are used for cleaning the facilities in other locations in the hospital such as whirlpool baths in Physical Therapy.

8. *Antibiotics.* Certain antibiotics have been kept in reserve throughout this period of four years for use in particularly severe staphylococcal infections. The type of drug has been changed on several occasions. Use of this particular reserved drug is made only after approval has been granted.

9. *Personal hygiene.* All hospital personnel with staphylococcal infections are excused from duty if there is any chance that drainage from such an infection will contaminate the environment. If nasopharyngeal cultures are found heavily positive for pyogenic staphylococci, the personnel concerned are advised to seek medical advice. Repeated nasal applications with water-soluble salves or sprays containing certain antibiotics or chemicals may prove to be useful in such cases although we have had little experience with this techni-

que. In several persons with furunculosis autogenous vaccines have been used with excellent results.

10. *Laboratory.* Periodic cultures of various parts of the hospital environment are now carried out. These cultures are in addition to the routine cultures which had always been carried out on milk, ice cream, drinking water, swimming pool, autoclaves, and on various utensils in the kitchens and cafeterias. Cultures and sensitivity studies are carried out in all instances where infections have required incision and drainage. If these cultures are positive for staphylococci, a separate record of the results of cultures and sensitivity studies is made and a monthly tabulation of all such studies is circulated among the hospital staff.

Monthly tabulations of the staphylococcal infections of all varieties which have occurred during the past two years have shown that from 50 to 80 percent of all staphylococcal infections including those in wounds as well as from urine, feces, sputum, etc., have been found to be coagulase-positive. Coagulase-negative organisms have been occasionally found in furuncles or abscesses, but generally such organisms are obtained from contaminated open wounds, pressure sores, burns, varicose ulcers, infected areas of gangrene, stitch abscesses, and draining sinuses. The more virulent coagulase-positive organisms have been the ones generally found in large furuncles and carbuncles, of the type occurring in debilitated and bedridden patients, and of the type occurring spontaneously on the exposed surfaces of the skin of personnel.

11. *Education of Hospital Staff.* Lectures and conferences have been held among the professional staff on the use and abuse of antibiotics on the control of staphylococcal infections. Refresher courses on aseptic techniques have been held by the Nursing Service for nurses, aides, and housekeeping personnel. Several motion pictures have been viewed by the entire staff. Tours of the hospital have been conducted by two well-known authorities on hospital techniques. All personnel have been admonished to report the presence of discharging staphylococcal infections and to excuse themselves from duty.

#### RESULTS OF PREVENTIVE PROGRAM

The results of our study and of the subsequent institution of a program for the improvement of hospital practices and facilities have been a noticeable decrease during the past several years in the number of hospital-acquired staphylococcal infections and an even more striking decrease in the number of such infections which have occurred in doctors, nurses, and attendants. At the present time staphylococcal infections in patients are less than half as frequent as they were at the start of this program, and the number of such infections which occur in hospital personnel has been reduced to one quarter of their former incidence. The number of hospital personnel who carry virulent staphylococci in their nasopharynxes has been reduced from 53 percent

to 15 percent. In our most recent survey, out of 67 persons cultured, 10 were positive for *Staphylococcus aureus*. However, in only 5 of these cultures were the organisms found to be coagulase-positive. These were sent away for phage typing and were reported as non-typable.

### DISCUSSION

In those days was Hezekiah sick unto death II Kings 20:1 . . . . . and Isaiah said, take a lump of figs. And they took and laid it on the boil, and he recovered. II Kings 20:7

The staphylococci have undoubtedly plagued mankind ever since childish curiosity goaded Pandora to open Mercury's box. Boils were mentioned in at least two passages in the Old Testament (Exodus 9:0-9:12 and II Kings 20:1-20:7). Hippocrates long ago recognized that osteomyelitis was of several different varieties, and poultices for the treatment of infections have been described on fragments of papyrus and on the clay tablets of several ancient civilizations.

Before the days of Lister wounds frequently became infected; and laudable pus, probably often the result of staphylococcal infection, was looked on with favor as being preferable to spreading infection of other types and as therefore the lesser of two evils. Widespread epidemics of staphylococcal infection have not necessarily been characteristic of our modern era as well-documented widespread epidemics of impetigo were reported in Europe several centuries ago. In the more modern preantibiotic era staphylococci were found in approximately two thirds of all clean wound infections (3). In traumatic wounds the *Staphylococcus* was the most commonly found organism. Pulaski in a bacteriological study of 200 consecutive traumatic wounds of all types cultured the *Staphylococcus aureus* in 42 percent of wounds and the *Staphylococcus albus* in 81 percent of wounds. Coagulase studies were carried out were positive in 42 percent of the strains of hemolytic *Staphylococcus aureus* (4). In addition, impetigo, paronychias and carbuncles on the back of the neck were more commonly seen then than now. Other varieties of staphylococcal infections such as osteomyelitis and perinephric abscess were also frequently seen. Severe postoperative wound infections frequently were followed by septicemia and death. On the other hand, in the preantibiotic era the insidious development of boils and carbuncles among hospitalized patients was seen infrequently.

By way of contrast the situation seems to be reversed in the present era. Staphylococcal infections are now relatively infrequent in the home, and the staphylococcus problem now seems to be largely confined to hospital practice. The increased general health of the population and the improvement in public water supplies and sanitation facilities, together with recently improved soaps and detergents, have probably done much to wipe out staphylococcal disease in the home. Whereas by way

of contrast in hospital practice a relaxation of aseptic and antiseptic techniques due to an unwarranted overconfidence in our therapeutic armamentarium has permitted brief so-called epidemics of staphylococcal infection to occur. The problem, it is now pretty well agreed, is one of cleanliness in a most sophisticated and microscopic sense. The resumption by hospital personnel of Listerian and Halstedian techniques and principles has now become mandatory.

As in other infectious diseases, the occurrence of an infection with pyogenic micrococci can be said to be related to the virulence of the organism, the dosage of the organism, and the resistance of the host. The most highly virulent organisms are usually those isolated from recent suppurative lesions, and it is believed that the virulence of an organism can be enhanced by repeated passage through the body of susceptible persons. It is generally agreed that the danger is not so much from the healthy carrier of staphylococci as from the occasional person who has an active infection in progress, perhaps a draining boil or carbuncle somewhere on the skin, and that from this type of person the organisms have acquired the additional virulence necessary to be of epidemiological importance. This is not to say that the healthy carrier of staphylococci is not a potential spreader of staphylococcal disease but only that he is probably the least important factor (5, 6). Staphylococci of varying pathogenicity are harbored in the nasopharynxes of from 50 to 60 percent of the population, and as many as 97 percent of persons are said to carry nonpathogenic strains of staphylococci in their noses and/or on their skins. A lesser number of people, however, carry hemolytic *Staphylococcus aureus*, and the number is highest among hospital personnel. The study at Temple University showed that whereas 41 percent of personnel examined carried pathogenic staphylococci in their noses only 1.7 percent of personnel carried the bacteriophage type identified as being responsible for a recent outbreak of staphylococcal infections. It has also been shown that hospital strains resistant to a given antibiotic increase in prevalence when the drug is used intensively and fall off when the use is restricted. In addition, it has been shown that patients on admission to the hospital with a relatively low percentage of antibiotic-resistant micrococci in their nasopharynxes gradually show an increase in the numbers of resistant organisms until the carrier rate is equal to that found in the hospital personnel, but that after discharge from the hospital the resistant organisms gradually disappear until once again the carrier rate is approximately half of that of persons who work in a hospital environment.

It is not believed now that bacteria develop resistance to antibacterial agents. Soon after the discovery of penicillin, it was recognized that certain strains of staphylococci were relatively resistant. Resistance is believed to be the result of spontaneous mutations occurring during the course of microbial multiplication, and the persistence of such a characteristic is believed to be



through genetic factors. More recent studies have shown the presence of resistant staphylococci in primitive populations where antibiotic agents have never been in use (7). It is apparent then that staphylococci in many varieties, both sensitive and resistant to drugs of many types, have been with us probably since the beginning of time.

By and large staphylococci are commensals and are the cause of little difficulty so long as man's natural immunity is not impaired and so long as his integument is intact. As they occur in widespread fashion on the skin and mucous membrane surfaces of practically all people at one time or another, it is unrealistic to try to achieve complete freedom from all staphylococcal infections. On the other hand, there are things which can be done in order to minimize the danger of having epidemics of staphylococcal infections within the hospital: (1) We can attempt to rid the hospital environment of epidemic strains of organisms, particularly of the phage types of coagulase-positive organisms, which have been the cause of most of the trouble. Although many of these organisms are antibiotic-resistant, apparently no resistance to antiseptic agents has ever been discovered, and they certainly can be destroyed as readily as most other organisms. (2) We should protect all patients who reside in a hospital as they are particularly vulnerable to staphylococcal disease. If a patient is particularly susceptible by virtue of the nature of his primary illness, actual isolation of this particular patient may be indicated. (3) All patients infected with coagulase-positive organisms should be isolated in special isolation units. (4) Finally, by the judicious use of antibiotics and antibacterial drugs, attempts should be made to prevent the overgrowth of resistant strains of organisms and thereby avoid seeding of the hospital environment with resistant organisms. To quote an editorial appearing in the January 28, 1956, issue of the J.A.M.A., "The prevention of secondary infections in a hospital is an exceedingly difficult task; although they cannot be entirely eliminated, much can be done to reduce their incidence. Dosing the patients with antibiotics provides no easy answer but rather aggravates the situation by facilitating the development of antibiotic-resistant organisms. The first line of defense is to block the channels of transmission of the pathogens, with antibiotics used only to treat those in whom other methods fail."

#### CONCLUSIONS

1. The "staphylococcus problem" that affected the Veterans Administration Hospital at Togus, Maine, in 1956, has been described.

2. Two basic reasons for the development of this epidemic situation are as follows: (a) The widespread use of antibiotics had tended to result in the elimination or suppression of susceptible strains of staphylococci among the hospitalized patients and had at the same time permitted large numbers of resistant organisms to become endemic in the hospital environment among the persons least able to resist such infections. (b) Because of the magic of the chemotherapeutic and antibiotic drugs a false sense of security had affected the medical staff, resulting in a widespread relaxation of the traditional aseptic and antiseptic principles and techniques.

3. The various measures which were instituted for the prevention and control of staphylococcal disease in this hospital have been outlined.

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#### RECOMMENDED MOTION PICTURE

"Hospital sepsis: A Communicable Disease." Sponsored by Johnson and Johnson, produced by Churchill-Wexler Film Productions, and available through The Princeton Film Center, Inc., P. O. Box 431, Princeton, N. J.

# Malignant Melanoma With Brain Metastasis

## Case Report With Seven-Year Survival

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Although malignant melanoma is characteristically unpredictable in its occurrence and subsequent behavior (1), a number of large series have been reported attesting to the fact that wide excision of malignant melanoma, even in the presence of regional lymph-gland involvement, may be followed by a five-year cure rate comparable to that found in many other neoplastic diseases. But long survival following excision of brain metastases in patients with malignant melanoma is exceedingly rare, and for this reason we feel that this case report should be of interest.

### CASE REPORT

A. M., a 58-year-old postmaster was first admitted to the Veterans Administration Hospital, Togus, Maine, on 8-3-54 as a transfer from another hospital with the diagnosis of brain tumor or subdural hematoma. This latter diagnosis had been entertained there because ten days prior to admission he had been struck on the back of his head by a falling four-by-four timber. He had been dazed by the blow, but had not lost consciousness. He continued to work for three to four days, but finally applied for admission at that hospital because of a persisting and steadily increasing right-sided headache of moderate severity. There had also been slowing of speech, failing memory, difficulty in concentration, and intermittent incontinence of urine. The patient's wife also stated that there was a slight personality change of several weeks duration. Past history was essentially unremarkable except for vague indigestion for a number of years without recent change and a chronic nonproductive cough. Approximately two months prior to this injury, in June of 1954, a mass had been removed at that hospital from the right axilla. The pathological diagnosis was that of an extremely undifferentiated lesion thought to be a squamous-cell carcinoma. No primary site had been identified. X-rays of his skull showed a shift of the pineal body backwards and to the left. A diagnosis of either tumor or subdural hematoma was made. The patient was then transferred to Togus. On examination the only evidence of his recent head injury was the presence of slight edema of the scalp in the right parieto-occipital region. Neurological examination showed slight obtundation of cerebral functions, papilledema, slight weakness of the left extremities, positive Babinski on the left, and

slightly diminished deep tendon reflexes on the left. The clinical impression was that of a right-sided cerebral lesion, either tumor or subdural hematoma.

Burr holes were made in both parietal regions. No accumulation of blood was found. Air was then introduced into the ventricles, and ventriculograms showed displacement of the lateral ventricles downwards and to the left. The diagnosis was then made of an intracerebral lesion in the right frontal area. A right frontoparietal craniotomy was carried out. The dura was found to be somewhat tighter than normal, and when it was opened the brain bulged, showing some flattening of the convolutions. Nothing was seen on surface exploration. The anterior pole of the frontal lobe was then resected, and a circumscribed tumor, 3.5 cms. by 2.5 cms., was encountered. This was removed in several sections as the tumor was buried in sub-cortical tissue. Frozen section was positive for metastatic tumor of epithelioid nature. It was felt at operation that there had been a gross removal of the tumor, but because the mass was so deeply imbedded and because of the diagnosis, further brain tissue removal was not carried out. The opinion was expressed at that time that the prognosis was poor, and it was feared that the lesion would undoubtedly recur. The immediate postoperative course was complicated by the development of a surface hematoma, but following its evacuation the wound healed per primam, and convalescence was completely satisfactory. He rapidly regained normal function and made an uncomplicated recovery.

When the permanent sections of the tumor removed at operation were studied, scattered areas of pigmentation were found, and the final diagnosis of malignant melanoma was made. A search of the patient's skin then revealed a brownish-blue, somewhat raised, pigmented nodule, approximately one centimeter in diameter and oval in shape, in the skin of the right posterior shoulder, overlying the trapezius muscle. Surrounding this pigmented lesion there were numerous tiny areas of pigmentation in satellite formation. This lesion and the surrounding satellite areas, of which there were 14 averaging 6 mm. in diameter, were removed by means of a wide elliptical incision. Pathological study showed this to be a well-differentiated malignant melanoma with origin from the junctional area and with spread into the adjacent subcutaneous tissues. Radical removal of lymph nodes was not carried out as there were no palpable lymph nodes in the neck, in either supraclavicular regions, or the right or left axilla. As it was

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thought that the undifferentiated tumor of epithelial origin removed from the right axilla might have been of the same origin, a slide was then obtained, and study showed similarities with the histological findings of the lesion removed from the brain and the skin of the back. The patient has been seen in regular periodic follow-ups at frequent intervals during the past seven years. All that time he has remained normal neurologically. He has been searched with careful scrutiny for any suspicious lesions, and although on two occasions some skin nodules were excised, none showed malignant changes. He has continued to be employed as postmaster in his home town and has been in good general health.

### DISCUSSION

Malignant melanomas show a wide variation in their rate of growth and in their proclivity to metastasize to regional lymph nodes or to distant organs. Because of the unpredictability of the spread of melanoma the prognosis in the past has been predominantly unfavorable. Melanoma cells may remain dormant for many years, after which there may be a period of rapid growth with wide dissemination of tumor and rapid death. They are known to be susceptible to trauma, including rubbing and pressure; and for this reason it is generally advised that suspicious lesions be removed by means of wide local excision. Where practical and feasible and where the lesion is in a location from which lymphatic drainage is predictable, wide local excision is probably better if associated with radical lymph-node dissection. An even more radical procedure advocated by some is to include local excision with removal of the lymphatic area en bloc. However, it has not been statistically proven that such prophylactic lymph-node dissection where the lymph nodes have been free of tumor has appreciably increased the five-year survival (2). When wide local excision is carried out, with or without radical removal of the regional lymph nodes, the five-year cure rate in many reported series is from 35 to 65 percent (3, 4, 5, 6, 7, 8, 9, 10). If regional lymph nodes are grossly involved with tumor and are included in the radical regional lymph-node dissection, the cure rate is appreciably less but still within the neighborhood of from 10 to 15 percent. The cure rate following regional lymph-node dissection is somewhat better than this when the lymph nodes removed on prophylactic lymph-node dissection are only found to be positive on microscopic examination. It is generally recognized that malignant melanoma is radio-resistant and consequently is only infrequently treated with X-ray therapy. On the other hand, radiotherapy is thought by some to be of definite value, and it has been pointed out that the term relative radioresistance does not necessarily imply that the lesion may not respond to X-ray therapy (11). An interesting observation was made by Lane, et al., (12) when they determined that when malignant melanomas 2 cms. in dia-

meter or smaller are excised there is a 61-percent chance of five-year cure, whereas if the lesions are larger than 2 cms. in diameter, the five-year cure rate drops down to 16 percent.

*Metastasis to the brain.* The feature which makes this case unusual is that after an apparent metastasis to a regional lymph node, the melanoma went probably by blood stream, through the pulmonary and arterial circulation to become a solitary metastasis in a favorable region of the brain. We have been able to find only one other comparable case in the literature. Horrax, in discussing a report on malignant melanoma by McCune and Letterman in 1955 (3), stated that he had had a case with a seven-year survival after removal of a brain metastasis of a melanoma which had previously involved the skin of the chest and had also involved a regional lymph node. His case was alive seven years later with the only sequelae being occasional convulsions.

In the literature malignant melanoma accounts for from 5 percent to 10 percent of all metastatic cancer which involves the brain (13, 14, 15, 16, 17, 18, and 19). In surgical series of metastatic cancer which involves the central nervous system metastatic tumors comprise from three percent to five percent of all brain tumors. In autopsy material from 15 percent to 40 percent of brain tumors are of metastatic origin. From 20 percent to 40 percent of brain metastatic tumors of all types are solitary. In many of the instances where solitary lesions were found at autopsy there was no involvement of other organs, indicating that these lesions were theoretically resectable with possibility of cure. In practically all series reporting metastatic cancer to the brain the order of frequency as to primary site is as follows: lungs, kidneys, stomach and bowel, breast, and the fifth is melanoma. All types of cancer are notorious for exceptional reactions. One is the prolonged latent period. Metastases to the central nervous system have been known to occur many years after removal of the primary tumor with such examples as 17 years after thyroid carcinoma (17), 18 years after an ovarian tumor (20), 18 years after cancer of the colon (17), 15 years, breast (13), and 9 years, kidney. Malignant melanoma likewise has had long latent intervals. Stortebecker reported five cases developing brain symptoms from 4 to 8 years after removal of the original tumors.

There may never be an agreement between the advocates of radical, aggressive surgery and the more conservative form of treatment. The former point to the cases of long survival; the latter remind us of the many failures and the low average periods of survival. Stortebecker reported a 17-year survival following excision of a solitary metastasis from a hypernephroma. In another case reported by Perese (19) a patient survived 3 craniotomies, a pneumonectomy, and 2 abdominal operations for the removal of isolated widespread metastases from a teratocarcinoma of the testis. At the time of the case report this patient had no disability

other than homonymous hemianopsia on the right side and slight exertional dyspnea 4 years after his last operation. The average survival following excision of solitary metastatic lesion is, however, discouragingly low and was only 10 and a half months in the series reported by Stortebecker. The results of treatment of metastatic lesions from the lung, breast, and melanoma have been particularly poor; and in 11 cases of melanoma observed by Stortebecker none survived more than one year. The results with adenocarcinoma of the kidney, thyroid carcinoma, and teratocarcinoma of the testis have been somewhat better. The longest operative survivals from brain metastases have been obtained in patients with solitary metastases located in the non-dominant hemisphere. It has been said that the prognosis following treatment of metastatic brain tumors is not good, but it is probably no worse than that of malignant gliomas of the brain.

Because of the unpredictable behavior of human cancer, it is always of interest to describe case reports such as this which show unusual manifestations of cancer. Contemplation of such a case should help to encourage physicians to take a more optimistic point of view in the management of any individual patient. Even if at first it appears that therapy for cancer will probably be ineffectual because of the development of a recurrence or of a distant metastasis, the hope of long-term survival can be an incentive to apply more radical treatment. Statements as to prognosis in cancer should be guarded, but generally hopeful. There is ample evidence now that cancer cells are seeded into lymphatic and vascular systems at frequent intervals in all types of cancer. However, a majority of such cancer metastases do not appear to be viable, probably because of unknown factors of host resistance. Excision of recurrences as well as of distant metastases, and the carrying out of second-look procedures should be done where indicated. Cancer cells may remain dormant with a latent period of many years before growth restraints are mysteriously lifted and the cells once again begin to grow. Aggressive treatment of such recurrences will sometimes yield remarkable palliative results. A number of case reports of spontaneous regression of malignant disease have appeared in the literature; and in one report, out of 112 collected cases which had adequate documentation there were 10 patients with malignant melanoma. Everson and Cole (22) believe that "the profession should use the knowledge of this phenomenon, rare as it is, to comfort the patient and relatives."

This case report and the one described by Horrax show that in metastatic malignant melanoma occasionally radical cranial surgery is justifiable even when the lesion is known to be a cerebral metastasis. We must ask ourselves if the sequence of events in the clinical course of our patient had been different, would our treatment have been different? If the first lesion had been a known malignant melanoma, the next operation

had revealed an involved lymph node, and then signs of a brain metastasis had developed, would we then have desisted from further surgery because we had decided that the patient was incurable and terminal? If so, we would have done this particular patient an injustice as he has survived the removal of a solitary axillary lymph gland and of a lesion in the right cerebral cortex and has now been gainfully employed for more than 7 years in his home community.

### CONCLUSIONS

1. A case is reported of a seven-year survival and apparent cure of malignant melanoma in a patient following excision, in this order, of an apparently solitary axillary lymph-node metastasis, of an apparently solitary metastasis in the right cerebral hemisphere, and thirdly of a primary skin lesion on the right shoulder.

2. While the prognosis is grave in a patient with malignant melanoma when a distant metastasis has been found, ultimate long survival is not precluded, and such patients should continue to be treated aggressively and hopefully.

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*Continued on Page 211*



# Adrenal Hemorrhage Associated With Dicumarol Anticoagulation

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## INTRODUCTION

Bilateral adrenal hemorrhage incident to anticoagulant therapy is a rare occurrence. Only six cases have been documented in the literature since 1952. Four of these patients received heparin, two received Dicumarol®.<sup>1,2,3,4,5</sup>

The following three cases reports describe adrenal hemorrhage occurring during dicumarol therapy. A hypoprothrombinemic state occurred in one patient. In the other two patients, the Quick prothrombin times were mildly elevated. The mechanism of bleeding in the latter will be discussed.

## CASE REPORTS

*Case No. 1.* This 63-year-old man was admitted for the ninth time to the Togus VA Hospital on April 28, 1956 for shortness of breath, swelling of the ankles, and wheezing. There were previous admissions for chronic bronchitis, pulmonary emphysema, bronchopneumonia, and cor pulmonale with congestive heart failure. Physical examination revealed a chronically ill, thin, dyspneic white man with a blood pressure of 120/80. Pulse was 90 and regular. There was marked neck vein distention and a positive hepatjugular reflux. There were physical and radiologic signs of cardiac

intravenous aminophyllin. Starting on the second hospital day, anticoagulation with heparin and dicumarol was begun. Heparin was administered from April 30th through May 9th and dicumarol from April 30th through May 20th. He also received intermittent doses of ammonium chloride and meralluride sodium. On May 4th and 5th, there was a temperature elevation to 104, which subsided following the use of procaine penicillin and chlorotetracycline. There was improvement with disappearance of the signs of congestive heart failure. On May 20th he was found to be apathetic, slightly cyanotic, and to exhibit slight stiffness of the neck, and there were rales and percussion dullness over the left posterior chest. Blood pressure was 130/70. Spinal fluid examination yielded blood attributed to a traumatic tap. On the following day there was further neck stiffness and he was comatose. There was no papilledema but slight facial weakness on the right, as well as rigidity of the extremities, more pronounced on the right. Blood pressure was 118/72. On May 22nd he was semi-conscious; the neck stiffness was still present. A Babinski reflex was present on the left and equivocal on the right. Cheyne-Stokes respirations developed and he died at 11:50 a.m. on May 23rd.

TABLE I — CASE 1

DATE	4/30	5/ 1	5/17	5/18	5/19	5/20	5/21	5/22	5/23
Quick Prothrombin Time, seconds	13	14	33	27			36	36	19
"Prothrombin" percent	68	48	15	17.5			14.5	14.5	25.8
Dicumarol Dose	150	150	0	50	25	50	0	0	0

enlargement, engorgement of the pulmonary vascular bed, slight hydrothorax at the left base, and signs of a moderate amount of ascites, as well as dependent edema. Urinalysis was normal; hemoglobin 13.4 grams; hematocrit 47%; BUN 11 mgs.%; serum chlorides 96 mgs.%. The sputum contained a few short-chained streptococci. Electrocardiograms revealed right ventricular strain, right axis deviation, and digitalis effect.

*Clinical Course.* The patient was thought to be in left and right-sided congestive heart failure, was treated with salt restriction, a digitalis preparation and

Autopsy performed two hours after death revealed no gross petechiae or purpura externally. The lungs showed pulmonary emphysema and fibrosis with emphysematous blebs at the apices, and congestion and edema of the lower lobes. The heart weighed 380 grams, and there was enlargement of the right ventricle. There was a retroperitoneal hemorrhage on the right extending into the pelvic area surrounding the bladder, terminal sigmoid and the rectum. The right adrenal measured 8x4x3 cms., and it was enlarged and firm. On sectioning, it contained a compact, reddish-purple blood clot filling the interior and leaving a 1 mm. rim of parenchyma. The left adrenal measured

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7x5x2 cms., and on sectioning contained loculated areas of hemorrhage, 8 to 4 mms. in thickness. The rim of the cortex was compressed by hemorrhage into the interior of the gland. Microscopic examination revealed also hemorrhage extending into the center of the gland. There was extensive degeneration and hemorrhage into the cortical areas. There was little cortical tissue present and the medullary portions were destroyed by the extensive hemorrhagic process. The brain revealed cerebral atrophy. The cerebral vessels had atheromatous plaques, especially the basilar arteries. There was no occlusion present. Serial sections failed to reveal any tumor, softening, or hemorrhage.

*Comment — Case No. 1.* Sudden death may be the only symptom of bilateral adrenal hemorrhage or there may be a predominance of delirium, convulsions, and coma.<sup>4</sup>

*Case No. 2.* This 61-year-old man was admitted to the Togus VA Hospital because of severe dyspnea, on June 5, 1958. Six years prior to admission there developed shortness of breath and the patient was told that he had congestive heart failure. He was successfully treated, and did not develop dyspnea again until three weeks prior to admission, when he also developed

Electrocardiogram on June 6th revealed left bundle branch block with myocardial anoxia and rapid auricular fibrillation. Electrocardiogram on June 14th revealed left bundle branch block and raised the possibility of a recent antero-septal myocardial infarction. There was now a sinus rhythm.

*Clinical Course.* The patient was treated with a Karrell diet, nasal oxygen, digitalization, and diuretics. Dicumarol and heparin anticoagulation were started. There was a diuresis with a weight loss of 21 pounds by the sixth hospital day.

In the afternoon of June 13th there developed left chest distress and a tachycardia with a pulse rate of 140. Additional gitalin and meperidine were given. In the evening, left chest distress recurred and a large ecchymotic area was found on the left hip. At noon on June 14th, the blood pressure became unobtainable, there was neck vein distention in the recumbent position, accentuation of P2, an audible gallop, marked hepatomegaly, and pedal and leg edema. Metaraminol bitartrate (Aramine®) was administered on three occasions between 12:35 and 3:45 p.m. Thereafter, blood pressures averaged 100/70. That evening the patient had five loose, bloody stools. Hematocrit was

TABLE II — CASE 2

DATE	6/ 6	6/12	6/13	6/14	6/15	6/16
Quick Prothrombin Time, seconds	18	29	34	149	42	
"Prothrombin" percent	27.5	16.5	15	0	12	
Dicumarol Dose	200	50	25	25		

orthopnea and paroxysmal nocturnal dyspnea. Ten days prior to admission there developed swelling of the ankles. There was at times a slight discomfort in the left upper chest radiating toward the shoulder. The physical examination revealed a blood pressure of 120/78, pulse was 116 and irregular. The patient was severely dyspneic. There were visible pulsations of the neck veins and a positive hepatojugular reflux. There were fine basilar rales, the heart was enlarged. The apex of the heart was diffusely and widely palpable beyond the left midclavicular line. Heart sounds were faint, irregular, and rapid. P2 was accentuated. The liver was not considered enlarged to palpation. There was 4+ pitting edema of the legs and feet.

*Laboratory Findings:* The BUN ranged from 43 to 34 mgs.%. There was a trace of albumin in the urine, and the urine sediment contained rare WBC's and RBC's. White count was 5,000; hemoglobin 13.4 grams; hematocrit 47 vols.%; sedimentation rate was 16 mm. per hour; BSP revealed 64% retention at the end of 45 minutes; cephalin flocculation was 3+ at 48 hours; serum bilirubin was .7 mgs.%; VDRL was doubtful; Wassermann was positive; and the urine contained a trace of bile.

48%; hemoglobin 13.4 grams. An emergency prothrombin time was 149 seconds. 100 mgs. of Phytonadione (Mephyton®) 100 mgs. intravenously was given. Temperature rose to 101.

On June 15th, the patient became more confused, incontinent of urine and feces. This state persisted and the patient died at 5:30 a.m. on June 16th.

The patient received dicumarol from June 6th through June 14th, and heparin from June 6th to June 9th.

Autopsy eight hours after death revealed no external ecchymotic areas. There was marked edema and congestion of all lobes of the lungs. Bloody, frothy fluid exuded freely from cut surfaces of the lungs. There was no evidence of pulmonary embolization. The heart weight 1000 grams. There was calcification of the descending branch of the left coronary artery and an occlusion near its point of origin. There was calcification of the cusps of the aortic valve with fusion at the commissures. There were yellow streaks in the wall of the left ventricle. Microsections suggested both healed areas of infarction and recent areas of infarction.

The liver weighed 1530 grams. Central veins appeared punctate. Microsection of the liver revealed large areas of necrosis and atrophy of the central por-



tions of the liver lobules. There was a slight increase in fibrous tissue extending from the portal area. The tail of the pancreas cut with a gritty sensation. Micro-section revealed findings compatible with focal areas of fat necrosis. These were infiltrated with polymorphonuclear cells and lymphocytes. The acinas and insular areas were otherwise normal. There was a hemorrhage about the left adrenal and extending into the left adrenal. The adrenal appeared of normal size. There was cavitation with a blood clot in the central portion of the right adrenal. The microsection of each adrenal revealed focal areas of necrosis with infiltration with polymorphonuclear leukocytes. There were hemorrhages within the cortex and the medulla, and in the peri-adrenal fat.

*Comment — Case No. 2.* This patient had clear-cut evidence of a hypoprothrombinemic state on June 14th.

*Case No. 3.* This 66-year-old man with history of dyspnea and wheezing, associated with a known ragweed allergy since 1916, was admitted to the Togus VA Hospital on September 9, 1960 for treatment of asthma and congestive failure. The present attack started when patient picked up trash in an area containing a large amount of ragweed. Physical examination revealed a well-nourished man in no acute distress. Blood pressure 110/90. There was no neck vein distention and a negative hepatojugular reflux. There was narrowing of the retinal arterioles. Chest expansion was diminished, breath sounds were diminished over the lung bases. There were many inspiratory and expiratory wheezes throughout the entire chest. The right heart border was enlarged. The left heart border was 11 cm. from the mid-sternal line in the fifth left interspace. There was auricular fibrillation. There was an apical rate of 108. P2 was not accentuated. There were no murmurs, and there was no gallop. The liver was enlarged. There was no peripheral edema and no clubbing of the fingertips. There was protruding rectal mucosa with thrombosed internal and external hemorrhoids. The prostate was 2+ enlarged.

Laboratory findings revealed a BUN of 36 mg.%; urinalysis revealed no albumin. Urinary sediment was not remarkable. White count was 8,900 with 78% polys, 22% lymphocytes. Serum glutamic oxalacetic transaminase was 41; VDRL was negative; repeat BUN was 47 mg.%; serum sodium was 134 meq.; potassium

4.7 meq.; on September 20th, hematocrit was 58%; hemoglobin 18 grams.

Chest X-ray on September 12th revealed no cardiac enlargement. There was slight pleural reaction in the right costophrenic angle, laterally and posteriorly.

Electrocardiogram on September 13th revealed auricular fibrillation, left ventricular strain, subendocardial damage, and digitalis effect.

*Clinical Course.* The patient was digitalized and was treated with a low sodium diet, meralluride sodium, and hydrochlorothiazide. There was a diuresis with a loss of 25 pounds by the sixth hospital day. Bronchospasm responded to treatment with bronchodilators.

The patient was placed on deep subcutaneous heparin twice a day on September 10th and remained on this until September 17th. Dicumarol was started September 12th and continued through and including September 19th.

On September 17th there developed distress in the upper abdomen which intermittently radiated through to the back. It was treated with Maalox® and Meperidine. On September 18th the distress abated. On September 19th there was mild dyspnea weakness, and anorexia.

At 5:30 a.m. on September 20th, there developed rectal bleeding which was presumed to be from hemorrhoids. This amounted to approximately one-half cup-full of blood. Blood pressure was 100/50; temperature 97°F; there was weakness and lethargy.

At 10:00 a.m. on September 20th, blood pressure became unobtainable. The skin of the extremities became cold. Metaraminol bitartrate, 10 mgs., was given hourly. However, blood pressure was still unobtainable. Apical pulses ranged from 68 to 112.

At 3:00 p.m., the rectal temperature rose to 102.4, apical pulse to 140, and an intravenous solution containing 60 mgs. of potassium chloride, 1000 cc. of 5% dextrose in saline, with 50 mg. of Metaraminol bitartrate was started. Later, another intravenous solution containing 5% dextrose and water with 100 mg. of Metaraminol bitartrate was added. That evening there were loose bowel movements on three occasions.

In the early morning of September 21st, the apical pulse rate had dropped to 100. Blood pressure, however, was obtainable on only one occasion at 3:00 a.m. The patient died at 5:10 a.m.

Autopsy was performed 3¼ hours after death.

TABLE III — CASE 3

DATE	9/12	9/16	9/17	9/18	9/19	9/20
Quick Prothrombin Time, seconds	12.5	24.5			31	34
"Prothrombin" percent	68	19.5			16	15
Lee-White Coagulation Time	30	19			30	30
Dicumarol Dose	200	50	50	50	50	0

There was no evidence of gross bleeding. There was an old infarct in the lower lobe of the left lung and the findings of bilateral pulmonary emphysema. The heart weighed 460 grams. The walls of the right ventricle measured 3 mm., the left ventricle measured 1.8 cm. in thickness. The coronary arteries were thin-walled and patent excepting for a few yellowish atheromatous deposits. Multiple sections of the myocardium revealed no fibrosis or infarction. The liver weighed 1320 grams. Sections revealed the non-specific changes of a reactive hepatitis, characterized by neutrophils in the sinusoids and portal areas.

The kidneys were grossly normal but microsection revealed occasional fibrosed glomeruli. There was hyaline thickening of the walls of the arterioles and the smaller arteries. Throughout the parenchyma were focal areas of lymphocytic infiltration. The pancreas was grossly normal but one microsection revealed an isolated area of fat necrosis with an acute inflammatory exudate. The adjacent lobules revealed only slight cellular infiltration.

There were hemorrhages involving both adrenals. The medulla of the right adrenal was replaced by hematoma measuring 1.5 x 1 cm. in cross-section. The left adrenal was hemorrhagic and had undergone post-mortem autolysis. There was no hemorrhage of the surrounding retroperitoneal tissues. Microsection revealed necrosis of the cortical tissue and destruction of the medullary tissue by a hematoma. There was a polymorphonuclear leukocyte exudate within the cortex of each adrenal. The vessels of the medulla were thrombosed.

*Comment — Case No. 3.* It is quite likely that patient had an episode of acute pancreatitis on September 17th. The symptoms of adrenal insufficiency did not develop until September 20th.

#### DISCUSSION

The blood supply of the adrenal is very profuse. Each adrenal is supplied by numerous vessels derived from the phrenic, aortic, and renal arteries. These divide as they course towards the adrenal, arborizing profusely at the margin of the gland to supply the cortical sinusoids.<sup>4</sup> There may be up to 50 arteries to each adrenal.<sup>6</sup> Each adrenal is drained by only one adrenal vein. This makes the adrenal very vulnerable to infarction if thrombosis occurs.

The causes of adrenal hemorrhages are numerous: (1) Acute infection, with and without septicemia; (2) Adrenal capillary injury occurring with convulsions, trauma, and emboli; (3) Destruction of the gland by tumors; (4) Generalized hemorrhagic states, including those caused by anticoagulants and leukemia; (5) In the newborn; (6) Thrombosis of the adrenal vein with infarction; (7) After burns; (8) With pancreatitis and other local inflammations; (9) With hypertension; (10) In ulcerative colitis, with and without ACTH therapy; (11) Spontaneous or idiopathic.<sup>4,5</sup>

Of all of these, probably the most common is septicemia or overwhelming infection. These is usually observed with meningococcemia, but may also occur with septicemia due to staphylococcus, pneumococcus, streptococcus, or hemophilus influenza.<sup>5</sup> The clinical picture consists of headache, nausea, vomiting, diarrhea, abdominal pain, irritability, and at times, convulsions. Shortly after the onset, a generalized cyanosis appears, which is followed by a purpuric rash. Evidence of a generalized hemorrhagic state is almost always present. Death usually occurs within 24 hours unless proper therapy is given.<sup>4</sup>

Spontaneous adrenal hemorrhage may occur at any age and is seen with equal frequency in both sexes.<sup>6</sup> Abdominal pain, usually localized to the epigastric region, is a very frequent finding and is often associated with tenderness and muscle spasm. Purpura is usually absent. Later, pallor, prostration, fall in blood pressure, nausea, vomiting, cyanosis, and finally, shock, develop. Fever and leukocytosis are often present.<sup>4,6</sup>

The present cases are illustrative of spontaneous adrenal hemorrhage associated with dicumarol therapy. Coumarin types of anticoagulants affect prothrombin, proconvertin (factor VII), Stuart factor (factor X) and plasma thromboplastin component (factor IX). Decrease of the first three factors causes prolongation of the Quick prothrombin time; whereas a decrease in the last does not. However, it should be emphasized that the Quick prothrombin time is relatively insensitive to prothrombin deficiency. In isolated prothrombin deficiency, bleeding may occur with a Quick prothrombin time of over 19 seconds.

The pattern of depression of the four factors by coumarin drugs is rarely the same from patient to patient. Thus, in those with a relative deficiency of prothrombin or plasma thromboplastin component (factor IX) bleeding may occur with a short Quick prothrombin time; whereas in those with a relative deficiency of proconvertin (factor VII) thrombosis may occur with a long Quick prothrombin time, since proconvertin is not necessary for the production of thrombin from blood constituents. It is unfortunate that the Quick prothrombin time is so sensitive to proconvertin (factor VII) which is not important in the scheme of blood clotting in vivo but it is so insensitive to prothrombin concentration, which is.

Sise, Lavelle, and Adamis<sup>7</sup> for that reason advise measurements of both the Quick prothrombin time and the true prothrombin concentration when patients under prolonged treatment with coumarin drugs are followed.

The majority of serious hemorrhagic complications may be expected when the Quick prothrombin time is in excess of 40 seconds, and this level should be avoided if at all possible.<sup>5</sup>

In our patients it is quite possible that in the first and third case the prothrombin concentration or the plasma thromboplastin component (factor IX) were diminished at the time of the adrenal hemorrhage.



Pancreatitis was found in two patients at autopsy. This was both acute and chronic in the second patient and involved only the tail. In the third patient it was only recognized microscopically in an isolated area. It is unlikely that it played a significant role in the production of adrenal hemorrhage.

Of great interest is the presence of mild azotemia in all of these patients. What role it played was uncertain.

#### SUMMARY

Three patients are presented with bilateral adrenal hemorrhages occurring during the course of anti-coagulant therapy. The various causes of adrenal hemorrhage are discussed.

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### MALIGNANT MELANOMA WITH BRAIN METASTASIS, Case Report With Seven-Year Survival — *Continued from Page 206*



# Surgical Treatment For Chronic Recurring Low Back Pain With Sciatic Radiation

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After joining the staff at this hospital I became aware that there is a sizable group of veterans who are considerably handicapped by recurring attacks of low back pain with sciatic radiation, in many cases severe enough to prevent gainful occupation. Most of them claim that their trouble began in the service. Some have had previous laminotomies or fusions with temporary or no relief, and they present a problem in management. Some have not worked and have been living on their communities.

Being convinced from my experience before coming here that simple, "keyhole" disc surgery commonly does not solve the problem of nerve compression, I decided to give a thorough trial to the more radical decompression of the involved lumbar nerves. I realized that this group of veterans might not give as good results as the routine run of civilians with the more acute disc lesions.<sup>1,2,3</sup> Some offered potentially uncertain prognosis because they had shown mental disturbances, others had become neurotic following prolonged episodes of pain or because of the compensation factors involved. The advantage of such a trial experiment has been that all operations have been done by the same surgeon, under standard conditions, and the patients have been free to come back as often and as long as necessary so we can keep track of them.

We have studied 265 of these, consecutive cases, operated from 1953 to 1960. Their ages have been — 20-29, 14%; from 30-39, 50%; from 40-49, 22%; from 50-59, 6%; over 60, 8%. As for occupations, practically all had been subjected to constant or intermittent heavy back strain, either in their present work or previous jobs. A few had been free of heavy duty. The onset of severe pain was not too certain. In about 30% of the cases, acute trauma was definitely related. Pain came on gradually in about 70% of cases. Practically all had many previous attacks of pain which had subsided in from a few days to several months. Only a very few presented with pain as a first attack, and they were treated conservatively for at least a month, unless their clinical picture indicated that there was present an acute ruptured or extruded disc. We excluded from this study the cervical discs and those whose pain was limited to the back and who were treated for discogenic disease with iliac graft interbody stabilization. In the

majority of patients the pain was in the distribution of L5 and L4. Laminectomy was done on 265 patients. Second operations were done in 52 cases for recurrence of trouble on the same or opposite side or because of failure to relieve the pain. On the right side, six nerves, and on the left, 14 nerves were sectioned.

The operation was in every case more complete than the "keyhole" operation and removed practically all of the lamina and enough of the facet to adequately uncover the disc and overlying nerve laterally, so we could visualize and remove all structures that were pressing on the nerve. The disc space was entered, when possible, and degenerated nucleus pulposus, if found, was curetted with a uterine curette. The thickened edges of the disc margin were trimmed off with fine chisel, or bone biters or curette. We thoroughly agree with Hanraets<sup>4</sup> that often the foramen is distorted by the overhanging facet and/or the disc margin, which is often sclerosed or even shows ossification. We often saw the bulge in the nerve as it entered the foramen, which seemed to be due to a ganglion; and in some cases we saw what was apparently the dorsal branch which went laterally and joined the vessel lying between the facet and transverse process. We found that chisels were more efficient than ronguers, but that was probably due to my added experience and interest as a carpenter. In the series it was known that two nerves were traumatized accidentally and they were sectioned without any ill effects. There were no deaths in the series and the morbidity was limited to two cases, one of staphylococcus infection of a hematoma, which was opened and healed by second intention, and one cauda equina syndrome of underdetermined etiology. It cleared up after a prolonged course. There were also about eight cases of simple hematomas in the wound, which cleared up after needle aspiration through skin puncture.

As to the findings at operation, about 16% were primarily ruptured discs, either extruded or ready to extrude as soon as the annulus was cut into. About 75% were the so-called compression in the foramen, and about 7% were nerves scarred from previous operations or traumatized, and these were sectioned. Bilateral operations were done in 30% of the operations. Second and third operations were done in 52 cases. These included operations to section nerves and for cordotomy. Nerve sections were done in 20 cases. Cordotomy was done in 7 cases after failure of previous operations to relieve pain.

\*Neurosurgery Section, Veterans Administration Center, Togus, Maine



In evaluating the end results, all cases were put into three groups: (1) those that were relieved of their pain and apparently working; (2) those that were working but had some pain with special exertion; and (3) those not able to do much work because pain was not sufficiently relieved or patient could not find employment sufficiently easy to suit him. In our series there were 216 (81%) in group 1; 22 (8%) in group 2; and 27 (10%) in group 3.

In going more fully into the various factors in the third group of 27 patients, we found that 16 (59%) were known as bad risks before we operated because of previous surgery, mental disturbances, and unstable nervous systems; five (18%) showed their weaker side after facing up to life and succumbed to the temptation to let the government or community support them and their families; and six, or 23% are trying to find suitable work and may yet adjust to their handicap. On the other hand, there were as many with bad prognosis before operation who surprised us with good results.

#### DISCUSSION

We have reported this series for two main reasons: (1) To show from our experience, not only here but in the Henry Ford Hospital, Detroit, Michigan, that cases with chronic recurring low back and sciatic pain stand a chance of fairly satisfactory relief of their pain by an operation if it adequately decompresses the nerve laterally in the foramen. This means removal of enough of the facet to give access to the foramen and sufficient room to chisel off the compressing tissue, and (2) To state that my experience agrees with Hanraets that there is a definite group of patients suffering from low

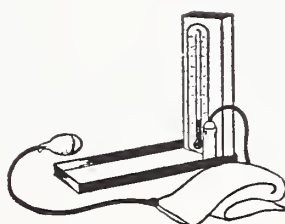
back pain with sciatic nerve radiation where the pain is due to chronic changes in the foramina, many associated with transitional vertebra, some due to changes secondary to old degenerated discs, and where the disc is only one of the compressing factors. It is in these cases that an adequate exposure must be made of disc and adjacent nerves.

The end results may not be as dramatic as with the usual run of ruptured discs, but it is still worthwhile to try to give these chronic sufferers at least some relief from their pain. Most of the cases classed in group 3 admitted that their old pain was gone but they did not seem to be able to obtain or hold a job. There still are too many of the jobs that depend on the injudicious use of the low back! This is one good argument for mechanization. There is a need for more widespread teaching of wiser use of the back among laboring men and women.

As we review our experience, it seems that it was worthwhile and we have helped to rehabilitate a sizable number of veterans, many of whom would be living on the community! Our experience also has taught us to better choose cases and desist from operating on the cases where the chances are too great of failure.

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# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

**The Broadest Part Of A Person (Seated)**

What is the broadest part of a seated person? The seat breadth? The elbow to elbow breadth, with elbows held close to the body? The biacromial diameter? The answers — in the plural, since they will differ by age and sex — are important to the designers of furniture, clothing, farm and industrial equipment, aircraft and other transportation equipment — all sorts of things which should fit people. They are needed from the standpoint of the efficiency of the product and the comfort of the user. In the design of many items they are vital to the safety engineer.

Body measurements are among the important health characteristics than can be ascertained only through actual measurements of people. As such, they are included — some 20 of them — in the Public Health Service's Health Examination which has been underway for a year and a half. Traveling around the country from one sample area to another with the Health Survey's mobile examination centers, a specially trained examining team is gathering statistics on certain chronic conditions and on selected physiological as well as physical measurements.

The Health Examination Survey is scheduled for York County, Maine late in August. The statistics collected there will represent this part of the country's contribution to the national estimates of the prevalence of heart disease and arthritis, the degree of visual acuity and of hearing loss, the distribution of blood pressure levels, etc., as well as the dimensions of the American physique. The estimates will constitute a battery of information we have never had for the entire population.

**Influenza Down In 1961**

According to data released by the National Disease and Therapeutic Index (N.D.T.I.), a nation-wide survey of private medical practice, 1961 may turn out to be an unusually mild influenza year. N.D.T.I., which measures the number of patient-doctor contacts involving various diagnoses, estimated only 1.7 million patient visits for influenza during the first quarter of the current year. This represented just 20% of the 8.5 million visits projected for the first three months of 1960, an epidemic year.

Historically, the first quarter of the year has accounted for a large proportion of total influenza patient visits for the year. A quarterly breakdown of estimated national influenza patient visits is shown below for the years 1958 to date.

U.S. PATIENT VISITS FOR INFLUENZA BY CALENDAR QUARTER (Add 000 to figures shown)				
	1958	1959	1960	1961
Jan.-Mar.	4,796	3,063	8,482	1,698
Apr.-Jun.	982	2,220	756	
Jul.-Sep.	1,042	1,096	658	
Oct.-Dec.	1,383	1,764	1,426	
Annual Total	8,203	8,143	11,322	

**Colorado Experience**

The unpredictability of the cost of a medical care program for the aged has been underscored by the  
*Continued on Page 224*





JAMES A. MacDOUGALL, M.D.

*President, Maine Medical Association*

1961 - 1962

## James A. MacDougall, M.D.

*President, Maine Medical Association*

*1961-1962*

James A. MacDougall, M.D. was elected President of the Maine Medical Association on June 19, 1961 at the 108th Annual Session General Assembly. Dr. MacDougall has served as Councilor for the Second District from 1948-1951 and from 1957 to 1961. He was Council Chairman from 1960 to 1961 and served as acting President-elect from February 13, 1961 until June 19, 1961.

Dr. MacDougall was born in Grand River, Prince Edward Island, Canada, January 23, 1888, the son of Roderick A. and Matilda MacNeill MacDougall. He was educated at St. Dunstons College, Prince Edward Island, and received his medical degree from McGill University in 1920. He practiced in Vermilion, Alberta from 1920 to 1923 and in Rumford, Maine since 1924.

He is a member of the American Medical Association, the Maine Medical Association and a member and Past President of the Oxford County Medical Society. Dr. MacDougall is Chief-of-Staff at the Rumford Community Hospital.

The Association is very fortunate to have a man as dedicated as Dr. MacDougall as its President for the coming year.



## Elected at the 108th Annual Session of the Maine Medical Association

Rockland, Maine

June 18, 19, 20, 1961

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DR. STUART



DR. WEYMOUTH



DR. SWETT

# Maine Medical Association

## STANDING COMMITTEES — 1961-1962

Standing Committees for 1961-1962 as proposed by the Nominating Committee and approved at the Second Meeting of the House of Delegates of the Maine Medical Association at Rockland, Maine, June 18, 1961.

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 Maine Society of Internal Medicine (Includes Medical Specialty Group) — Albert Aranson, M.D., 39 Deering St., Portland  
 Maine Eye Group — Nobody appointed  
 Maine Radiological Society — John F. Gibbons, M.D., 22 Bramhall St., Portland  
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Ear, Nose and Throat Group — John E. Whitworth, M.D., 116 Hammond St., Bangor

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 Robert J. Barrett, Jr., M.D., Cor. Union & James Sts., Bangor (3 yrs.)

### Delegate and Alternate to AMA January 1, 1961 to January 1, 1963

Delegate — Asa C. Adams, M.D., 68 Main St., Orono  
 Alternate — George J. Robertson, M.D., 33 College Ave., Waterville

## 1961 Committee Reports\*

### Standing Committees

#### Public Relations Committee

It was my privilege to attend a Seminar on Public Relations in September, 1960 at the Drake Hotel in Chicago which consisted of many talks with regard to the public "image" of present day doctors and the American Medical Association, and how this "image" is affected.

It was suggested that "selling" the Medical Profession to the public would in general follow along the same lines as selling beer or cosmetics. It implied that certain basic principles applied to each method and these are almost identical.

I believe it was quite significant that there were only a very few M.D.'s at this meeting. Most of the other County and State Medical Societies were represented by full time professional Public Relations men. Large county societies are individually represented. Milwaukee County in Wisconsin

has about 1300 members and has their own representative.

During the course of the year I was able to send to the Health Council of Maine some material which we acquired from the American Medical Association office in Chicago for release for radio publication.

Although I had projected meetings for different times during the year, for one reason or another, these never materialized. This has led me to wonder whether we would not, as a State Association, fare better with our Public Relations if we did also have a full time representative. It is also my conviction that a year is too little time to become adequately acquainted with the problems and techniques of a Public Relations effort.

JOSEPH E. MEMMELAAR, M.D., *Chairman*

#### Rural Health Committee

This has, I believe, been an inactive group since its inception. It can and I hope will be a good functioning committee. It is indeed an important one and I have been happy to be associated with the members on a State and Regional level during the past year.

A meeting was held at the Stowe House in Brunswick on September 15, 1960 with the majority of its members present. Representatives of the Department of Health (Dean Fisher), Esther Kennard, Secretary-Treasurer of the Maine Medical Association, Constance Cooper, Home Demonstration agent Leader and guests were present.

It was rather hard breaking the ice because this was the first meeting of this type that was held by this group in the

State, to my knowledge. There was an attempt to stimulate discussion in varied problems coming under the Rural Health category and all present joined in and were very cooperative. Dean Fisher had many of the answers to our problems; most of these were good ones.

A review of the conditions of health, medical care, hospital service, public health and allied subjects such as the migrant worker was undertaken. The members of the committee volunteered their services for health conferences in cooperation with the Extension Service throughout Maine.

At Amherst, Massachusetts some of us met with Norman Gardner and other representatives of the A.M.A. Committee and again at Concord, we attended an interesting meeting involving Rural Health.

It is hoped that the committee will convene at the State Medical Society gathering in June and here we will try to

\*Presented at the 1961 Annual Session of the Maine Medical Association House of Delegates.

graduate from the crawling stage to walk a bit more upright. I feel one reason the attendance was not more complete at the Rockland meeting last year, depended on the time it was scheduled, namely, when everybody was taking off for home. In 1961 I trust we can work together as a group and

bring our problems as well as suggestions in order that the Committee, at least, will be activated and functioning to a better degree of profit for the larger organization we are so fortunate to represent.

PAUL R. BRIGGS, M.D., *Chairman*

## Special Committees

### Committee On Mental Health

The Seventh Annual Conference of Mental Health Representatives of the State Medical Associations was held in Chicago on January 20-21, 1961, and was attended by the Chairman of this Committee as representative.

The theme of the meeting was "Appraisal of Developments and Progress in Mental Health Programs as Observed by Conference Participants" with the idea in mind that the discussions be oriented to the first American Medical Association National Congress on Mental Health which will be held in the Fall of 1961. The discussion groups, with the above in mind, met in six groups: 1) Mental Hospitals, 2) Psychiatric Trends in General Hospitals, 3) Mental Health Services for Children, 4) Out-patient Psychiatric Clinics, 5) General Rehabilitation Services, 6) Medical Legal Aspects of Commitment.

In all groups there was a general feeling that in spite of the existing problems in the Mental Health movement, all areas were making definite steps forward in communication between various Medical Groups and increase in understanding. It was recommended that all states support a separate Mental Health authority who would be in all cases an M.D., A certified Psychiatrist with Administrative experience. Stress was placed upon personnel shortage which exists in most areas and that education at all levels was indicated. It is hoped that at the Congress to be held in the Fall, which will gather representatives from all service levels, much can be done to clarify and facilitate the working together.

Consistent with the recommendations listed at the Annual Conference, Maine is aggressive and forward enough to have hired a Director of Mental Health in this State and early in September, Dr. William E. Schumacher started in his duties as the Director of the Bureau of Mental Health. In recent correspondence with him, he has spent the last six months becoming familiar with the mental health activities and the personnel in the community and in the institutions. He notes that they have "undertaken the responsibility of a subsidy-type support for programs of trainable retarded children" and he informs us that organizations are now receiving help from his group; that psychological services for the Maine State Prison are in the process of being developed; pooling of all the mental patients with tuberculosis at the Augusta State Hospital. New legislation is a vital part of his activities and they are in the throes of increasing the budget for the community mental health subsidies; a new commitment law is still under consideration; the Governor has just signed a Bill permitting voluntary commitment of alcoholics and addicts for up to ninety days in our Mental Hospitals. Other Legislative proposals, he notes, are provisions for some type

of educational programs for emotionally disturbed children, rehabilitation services for recipients of A. D. C. welfare, and new therapeutic facilities for the Boy's Training Center. Dr. Schumacher made a request on the behalf of the community mental health services with no medical supervision and the fact that there has been criticism of these services: that the psychologists and social workers should have medical supervision. Although all are in agreement that this is the goal for which we should work, the benefits of the existing services should not be minimized and that the medical supervision should be a community effort and that community physicians are usually the only resource for this type of supervision.

A quick summary of the activities of the State reveal that Dr. Pooler, at the Bangor State Hospital, has not had too many changes within the past year. He states that: 1) thirty-four per cent of the admissions in 1960 were voluntary, 2) that the out-patient clinic of the Bangor State Hospital has a staff of two psychiatrists and four psychologists and saw 350 out-patients with 2,100 interview therapy sessions, 3) The Eastern Maine Guidance Clinic in Bangor has two psychologists (Ph.d's) and four Social workers (M.S.) and the community clinic is largely financed by the Bangor State Hospital. He notes that 292 persons, both adults and children, were seen and a total of 1,635 interviews and treatment sessions. His last point is that the Bangor State Hospital will have completed an addition to the present Geriatric Building by July 1, 1961 so that it will have a total bed capacity of 335.

Dr. Sleeper at the Augusta State Hospital in his summary of the activities at the Augusta State Hospital reveals that the admission rate and the discharge rate continue to increase and that the existing facilities, physical, are being used to capacity. The general theme of his report is one of continued efforts on the staff at the hospital to treat, organize and rehabilitate in various ways, both teaching and therapy, to move people to the outside world. A new insulin unit has been added and is active with a group and individual therapy coincident with the insulin treatments. The families of the people receiving the insulin therapy are also participating in the treatment program. Dr. Sleeper, in his usual succinct and efficient manner, is describing a very fine program at the Augusta State Hospital.

GUY N. TURCOTTE, M.D., *Chairman*  
FRANCIS H. SLEEPER, M.D.  
FRANK S. BROGGI, M.D.  
JEROME W. BERGMANN, M.D.  
HAROLD A. POOLER, M.D.

### Diabetes Committee

National Diabetes Detection Week was observed as usual in November, 1960. However, the general program and a good proportion of the testing were in effect during a period of several months. For some hospitals, welfare groups and industrial plants, it is now a year around program.

Our 1960 campaign was extremely successful with many organizations and individuals taking part with perfect co-

ordination. Physicians, nurses, hospitals, druggists and radio-TV stations gave freely of their time. Through the efforts of Dr. Daniel Hanley, Executive Director of the Maine Medical Association, it was possible to obtain the services of Mrs. F. M. Baldwin of Brunswick as secretary of the Diabetes Detection Drive. Mrs. Baldwin also did an excellent liaison job in

*Continued on page 223*



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## State Of Maine

# Department of Health and Welfare

## Hepatitis Surveillance

MARGARET H. OAKES\*

A marked increase in national incidence of hepatitis during 1960 was noted by the U. S. Public Health Service in its final Morbidity and Mortality Report for the year:

"During the calendar year 1960 more than 41,000 cases of infectious and serum hepatitis were reported in the United States. This is about 77% more cases than were reported in 1959, and this is the highest figure since 1954, when 50,093 cases were reported. Since records have been kept, beginning in 1950, the number of cases reached a peak in 1954, declined to 14,922 cases in 1957, and has been rising ever since. There is no certainty that 1960 was a peak year. The weekly number of cases reported at the end of the year were generally higher than those earlier in the year and for comparable weeks in 1959. . ."

The first quarter of 1961 brought no decline in hepatitis. Instead there was a national incidence markedly higher than for the same period in the peak year, 1954. This sustained high incidence was reflected in practically all states. The seasonal fall-off in cases, due in the late winter and early spring, had not yet appeared at the end of March, and two outbreaks of infectious hepatitis attributed to the consumption of raw shellfish from polluted areas had been reported.

The State of Maine, which had its first reported cases of infectious hepatitis (18 in number) in 1946, did not have any reported increase in 1960. In fact the number of reported cases remained in 1960 at the same level at which it was in 1958 and 1959. The infectious hepatitis outbreak which began in 1952 with 306 cases and peaked in 1954 with 783 cases, had run down to this level (approximately 90 cases) by 1958, the last significant year being 1957 when 240 cases were reported. The first quarter of 1961 brought Maine only 32 reported cases, although this represented an increase over the 22 cases reported during the first quarter of 1960.

Because of the marked increase in hepatitis nation-

ally, the U. S. Public Health Service, through its Communicable Disease Center, established in April, 1961 a Hepatitis Surveillance Program in which all states are cooperating. Under this program routine weekly reports to the Communicable Disease Center are broken down to show numbers of cases over and under 20 years of age and all cases 20 years of age and over are being investigated. This investigation covers cases having onset on or after March 1, 1961. A simple form is completed for each such case, the object being to determine presence or absence of icterus, possibility of serum hepatitis, history of contact with a previous case, possible consumption of raw shellfish and source of home water supply.

By mid-May the seasonal decline in cases, expected on the national level, had begun to make a delayed appearance. What the fall and winter will bring has not as yet been the subject of a published guess.

Maine's reported cases of hepatitis for the year 1961 through the week ending May 27, totalled 59. Investigation had uncovered three small family outbreaks and a small neighborhood outbreak, occurring since March 1. No evidence had appeared to indicate that any cases had been due to serum hepatitis (virus B), and none which would implicate raw shellfish as a source. All cases interrogated would appear to have resulted from person-to-person contact.

The 59 cases reported appear below, tabulated by sex and age group:

Age Group	Male	Female	Sex Unknown	Total
0-4		1		1
5-9	4	3	1	8
10-14	2	5		7
15-19	3	9		12
20-24	5	5		10
25-29	3	1		4
30-39	4	4		8
40 and over	5	2		7
Age unknown	1		1	2
Total	27	30	2	59

\* Assistant to the Director, Division of Communicable Disease Control.



It can be seen from these figures that 28 of the 59 cases (almost half) were under 20 years of age. Several states with a definite increase in numbers of cases in 1961 have experienced a marked preponderance of adult cases. So far this has not been true in Maine.

A considerable proportion of hepatitis cases are heard of only through request for free Red Cross globu-

lin for household contacts. It seems probable that other cases, for whose contacts globulin has not been requested, have been diagnosed but not reported. Hepatitis, both infectious and serum, is reportable to the local health officer and prompt notification by all physicians of the cases diagnosed by them will be particularly valuable as an aid in the Surveillance Program in which we are now participating.

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## New Head of Diagnostic Laboratory

Dr. Charles H. Okey, Assistant Chief of the Philadelphia Public Health Laboratory has been named Director of the State Diagnostic Laboratory, succeeding the late Arch H. Morrell, M.D. Dr. Okey assumed his new duties July 5th.

The newly appointed Director comes to Maine with a well-rounded background of education and experience. He was graduated from the University of Tennessee in Knoxville in 1937 and attended the Louisiana State University Medical School for two years. He received a Master of Science degree in bacteriology from the

University of Tennessee in 1943; a Master of Public Health degree from Yale University School of Public Health in 1944 and a Ph.D. in bacteriology from Yale in 1950.

Dr. Okey was Assistant Professor of Bacteriology at the University of Tennessee and an instructor in Public Health at Yale. For eight years, before going to Philadelphia in 1958, he was Assistant Professor of Bacteriology at the University of Vermont School of Medicine.

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### 1961 COMMITTEE REPORTS — *Continued from page 220*

working with Miss Ruth T. Clough, educational consultant of the Maine Department of Health and Welfare, who traveled far and wide throughout the state from August, 1960 to January, 1961. Her department obtained and financed a speaker in January, 1961, on "Diabetic Management" at the Central Maine Sanatorium which was well attended by physicians in that area. Twenty-five separate radio spot announcements were prepared with all radio-TV stations and state-wide publicity was released to daily and weekly newspapers, which gave freely of space in announcing the purposes of the drive. Educational material was widely distributed throughout the state; and there was an increasing number of specimens examined in physicians' offices during the drive — 7,116 with 154 positives.

The final figures showed that urine specimens were examined on 67,065 patients and that 879 of these were positive. Lack of funds again prevented us from doing blood sugars on all positive reactors but out of 10,959 blood sugar screenings done by the Health Department, 205 were found to be positive. Among all specimens examined, including both urine and blood, 34 were known diabetics. We examined a total of 78,024 specimens (with Dr. Melvin Bacon of York County accounting for 19,202 of the total) and found 1,084 positive.

Your committee desires to thank all those concerned for a most successful diabetic campaign in 1960. Hard work and excellent coordination throughout the state made this possible.

ELTON R. BLAISDELL, M.D., *Chairman*

### Maine Committee — American Medical Education Foundation

There has been a six percent increase in contributions to the A.M.E.F. over the previous years, here in Maine. Nationwide, there has been a slight decrease.

This spring a letter was sent to the members of the State Medical Society, calling to their attention the aims of the Foundation. The response to this letter was excellent.

Recently, the A.M.A. has sent another letter. Realizing full

well that charity begins at home and that we now have our own Maine Medical Education Foundation, it behooves each of us to give to the Foundation that we feel will best serve our profession to keep government out of the practice of medicine.

ROBERT W. AGAN, M.D., *Chairman*

(To be continued in August)

ACROSS THE DESK — *Continued from Page 214*

Colorado experience . . . According to the Wall Street Journal, Colorado's old-age medical care program costs are far outstripping the \$10 million budgeted for the fiscal year ending June 30, 1961. . . It reported that a \$1.4 million deficit was looming . . . Walter R. McKinstry, chairman of the State Welfare Board, was quoted as saying: "When the state put up that money, it was like everybody had come into a big inheritance. Too many pensioners with colds and hernias decided it was time to go to the hospital. It wasn't long before we reached the bottom of the barrel." . . . Social Security planners of H.R. 4222 only recently decided that their original estimate of the costs of its nursing home care benefits was too low . . . The original estimate was \$9 million the first year of operation . . . Now, social security actuaries are thinking in terms of between \$25 million and \$255 million. (Council On Legislative Activities)

**Medical News In "The News"**

The New York Daily News took HEW Secretary Ribicoff to task for his speech before the graduating class of the University of California Medical School. In an editorial, the publication pointed out that "one could detect a veiled threat that, if the doctors don't play along with the politicians in furnishing more and more 'free' medical care, the politicians will take over the doctors." (Council on Legislative Activities)

**\$500 Million Giveaway In Surplus Predicted**

Personal and real surplus property — mostly the former — that cost Uncle Sam \$424 million will be given to the states this year for distribution among health, teaching and civil defense institutions. Senate Appropriations Committee was so informed last week by Dept. of HEW officials who have charge of this huge giveaway. They predicted that in fiscal year 1962, beginning July 1, allocations will exceed \$500 million. Most of this surplus property comes from military sources. (WRMS June 19, 1961)

**New Figures On Over-65 Citizens Given In Report**

Between 1920 and 1960, Americans 65 and over increased 236 per cent. However, in 1920 one-third of the aged were employed but in 1960 the employment rate was one-fifth. Potential voting power of this group has nearly doubled since 1920: over-65'ers comprised 8.1 per cent of voting population then, 15.4 per cent today.

These are just a few of the statistics presented in a staff report of Senate Special Committee on Aging which will be published this week. It reveals that 11 states, with more than 500,000 over-65'ers each, con-

tain 60 per cent of the country's "aged." At the top are New York, 1,687,590; California, 1,376,204; Pennsylvania, 1,128,525. Florida has tenth ranking, with 533,129. (WRMS June 12, 1961)

**Braceland & Homburger Advise On Research Aid**

Nearing close of its hearings on Dept. of HEW budget for 1961-62, Hill subcommittee heard Dr. Francis J. Braceland recommend an appropriation of \$125,570,000 for National Institute of Mental Health. This compares with \$92,182,000 in the House-passed bill and \$100.9 million in current year's budget. Appearing in behalf of American Psychiatric Assn., Dr. Braceland said most pressing need in this field is training of psychiatric and auxiliary personnel.

Dr. Freddy Homburger, president of Bio-Research Consultants in Cambridge, Mass., boldly called for a \$50 million appropriation to set up 100 independent research institutes — two in each state — administered by nonprofit corporations under direction of "qualified scientists outside of universities or hospitals."

Burden of his testimony was that National Institutes of Health favors hospitals and teaching institutions, in its grant awards, to the detriment of independent research institutes. He was also critical of National Cancer Institute for what he called overemphasis of chemotherapy. Dr. Homburger conceded that his suggestions have been labeled "revolutionary and impractical" by some U. S. officials. (WRMS June 19, 1961)

**Environmental Health Center Starter Asked**

President Kennedy sent a special request to Congress for \$3,515,000 to be used for site acquisition and detailed planning of an environmental health center. It will go up on a 690-acre tract near Rockville, Md., roughly midway between National Institutes of Health and headquarters of Atomic Energy Commission at Germantown, Md. Construction cost is estimated at \$33.4 million, its 450,000 square feet providing workspace for 1,600 personnel. (WRMS June 19, 1961)

**NIH Seeks Doctors' Help On Mediterranean Fever**

NIH Clinical Center in suburban Bethesda, Md., asks cooperation of physicians for a comprehensive study of familial Mediterranean fever (periodic fever, paroxysmal peritonitis). Cold sensitive patients or those vulnerable to seasonal variations of attacks are especially sought. For referral information, physicians should communicate with Dr. Sheldon M. Wolff, NIH, Bethesda 14, Md., telephone OLiver 6-4000, extension 4831. (WRMS June 12, 1961)



## County Society Notes

### SOMERSET

May 23, 1961

The Somerset County Medical Society met at the O-Sole-Mio restaurant in Skowhegan, Maine on May 23, 1961.

Dr. Jacob M. Jackler of Waterville spoke on "Closed Chest Cardiac Resuscitation" which was followed by a motion picture presented by the Maine Heart Association.

Members present were: Drs. H. Carl Amrein, Kestutis M. Kemezys, Andrew M. Szendey, Louis S. Hornstein, W. Edward Jordan, Jr., Edwin M. Lord, Maurice S. Philbrick, Harland G. Turner, Marian L. Strickland, Paul R. Briggs, Edgar J. Smith and Franklin P. Ball.

Guests attending were: Drs. Earle M. Davis of Waterville, Secretary-Treasurer of the Kennebec County Medical Association; John D. Southworth of Hartland and Ernest W. Stein of Pittsfield, Councilor of the 4th District.

HARLAND G. TURNER, M.D.  
*Secretary*

resignation of Dr. Albert J. Grish was accepted as President of the society and his request for transfer to Cumberland county was accepted. Dr. Grish is leaving practice in Rumford to become Assistant Superintendent at Pineland Hospital and Training Center in Pownal, Maine.

Dr. Alden Squires of the Veterans Administration Center at Togus discussed the film "External Cardiac Massage" at the Scientific program which was sponsored by the Maine Heart Association.

ALBERT P. ROYAL, JR., M.D.  
*Secretary*

### Deceased

#### CUMBERLAND

Ralph E. Williams, M.D., Main Street, Freeport, June 23, 1961

### OXFORD

June 7, 1961

The spring meeting of the Oxford County Medical Society was held at the Bethel Inn in Bethel, Maine on June 7, 1961. Members present were: Drs. James A. MacDougall, John A. Greene, Norman M. Jackson, Peter B. Aucoin, Albert P. Royal, Jr., Delbert M. Stewart, Harry L. Harper, H. Richard Bean, Walter G. Dixon, Joelle C. Hiebert, Jr., Roswell E. Hubbard, Dexter E. Elmore and John Young.

At the business meeting, Dr. Linwood M. Rowe was transferred to Junior membership while he serves a Residency in Radiology at the Maine Medical Center in Portland. The

## Necrology

RAYMOND VAN NESS BLISS, M.D.

1887-1961

Raymond Van Ness Bliss, M.D., surgeon, physician, philanthropist; formerly Captain M.C., U.S.A., died at Blue Hill, Maine, May 2, 1961.

(It was Dr. Bliss' request that only this statement of his death be used)

## News, Notes and Announcements

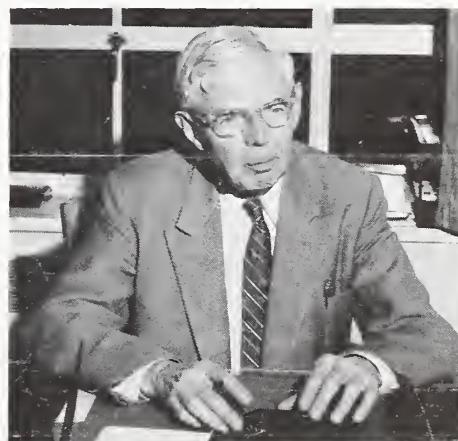
### Dr. Frederick T. Hill Receives deRoaldes Award

Dr. Frederick T. Hill was presented the deRoaldes Award at the annual meeting of the American Laryngological Association at Lake Placid, New York on May 21, "for achievement and accomplishment in the art and science of Rhinology and of Laryngology."

The report of the deRoaldes Award Committee follows:

Dr. Frederick Thayer Hill graduated from Colby College, Waterville, Maine in 1910. He received his Medical Education at Harvard University, and his Residency Training in Otolaryngology at the Massachusetts Eye and Ear Infirmary in Boston. After serving for a year in the United States Army Medical Corps as a First Lieutenant, he returned to the Massachusetts Eye and Ear Infirmary as a member of the Staff until 1920, at which time he started his private practice at Waterville. He was certified by the American Board of Otolaryngology in 1924.

His efforts in maintaining the highest standards of medical practice were unceasing and most effective on the local as well as the state-wide level. Under his direction as Chief of Staff and Medical Director of the Thayer Hospital at Waterville, he



DR. HILL

helped to make it one of the finest Hospitals in Maine. He also personally established and participated in the teaching programs of the Interns and Nurses in the Hospital.

These achievements were all the more noteworthy in the absence of any Medical School affiliation to substantiate his

efforts. His idealism for the improvement of Hospital standards further exemplified itself, by his being recognized as one of the foremost authorities in this field, as attested by his election to such offices as the Presidency of the Maine Hospital Association, the Presidency of the New England Hospital Assembly and the Presidency of the Maine Medical Association.

To add to his distinction he was awarded the Degree of Doctor of Science by Colby College in 1926, and the Honorary Degree of Doctor of Science by the University of Maine in 1942. Truly Dr. Hill is one Prophet who was not without honor in his own country.

At the national level, Dr. Hill has established an enviable reputation for his sagacity, his high principles, and his unswerving devotion to duty. A member of all the national Otolaryngologic Societies, he has held high offices in each of them. He was Vice-president of the Triological Society in 1935 and 1936; Vice-president of the American Bronchoesophogological Society in 1951 and 1952, President of the American Otological Society in 1953 and 1954, and First Vice-president of American Academy of Ophthalmology & Otolaryngology 1960-61. He has been a Director on the American Board of Otolaryngology for many years and President from 1953 to 1955.

He has served the American Laryngological Association long and faithfully since his election to active membership in 1928. His record shows that he was Vice-president in 1938 and 1939, and Treasurer from 1939 to 1948, President in 1948 to 1949 and a member of the Council from 1939 to 1953. In that year Dr. Hill was given the well merited Newcomb Award of the Association. In his 33 years of active membership he attended every meeting that was held and presented nine excellent papers. He was elected to Honorary Fellowship in 1960.

Mr. President, the deRoaldes Award Committee recommends that this highest honor bestowed by the American Laryngological Association be given to a man who is most deserving, because of the faithful performance of all his duties in the American Laryngological Association over the years, his wise counsel, his unselfish and unswerving devotion to the maintenance of the highest ideals of the Specialty of Otolaryngology and the principles of Medical practice, in his teachings and in his writings and by his sterling example to the younger men — Frederick Thayer Hill.

Respectfully submitted;

The deRoaldes Award Committee

Bernard J. McMahon, M.D. (Chairman)

William J. McNally, M.D.

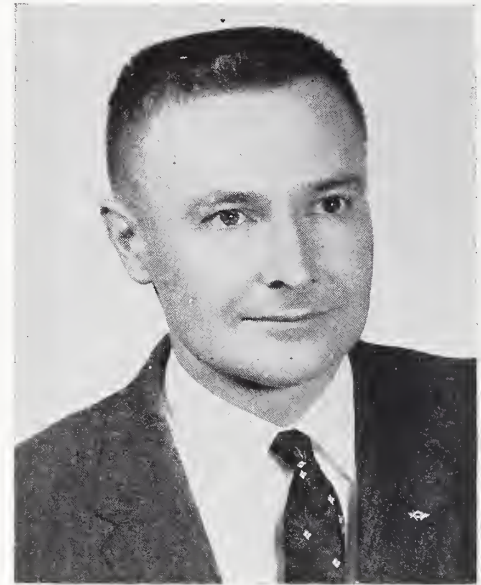
Harry P. Schenck, M.D.

Louis H. Clerf, M.D.

Dean M. Lierle, M.D.

## Dr. William C. Luther Appointed Assistant Medical Director

Dr. William C. Luther has been appointed Assistant Medical Director of the Ames Company, Inc., Elkhart, Indiana according to a recent announcement by N. L. Heminway, M.D. of this company.



DR. LUTHER

Dr. Luther joined Ames Company in May of last year as a member of the medical staff. He came to Ames Company after having practiced in Sullivan, Maine for six years.

Dr. Luther is a member of the American Medical Association, Maine Medical Association and is a past President of the Hancock County Medical Association. He is a Diplomate of the National Board of Medical Examiners and a member of the Academy of General Practice.

## Department Of Health And Welfare Division Of Maternal And Child Health

### Pediatric Clinics

Bangor — Eastern Maine General Hospital

1:30 p.m.: July 28, Aug. 25, Sept. 22

Fort Kent — Peoples Benevolent Hospital

10:00 a.m.: July 26

Presque Isle — Northern Maine Sanatorium

1:30 p.m.: Sept. 27

Waterville — Thayer Hospital

1:30 p.m.: July 11, Aug. 1, Sept. 5

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# The Journal of the Maine Medical Association

Volume Fifty-Two

Brunswick, Maine, August, 1961

No. 8

## Advances In Gastroenterology Celiac Disease And Non-Tropical Sprue\*

IRVING J. POLINER, M.D.\*\*

For many years the striking similarity between celiac disease in children and non-tropical sprue in adults has been observed. Many physicians feel these diseases have no differences that cannot be explained by the age difference of the patients and the duration of the disease. Unfortunately tests that demonstrate malabsorption are non-specific. Histological studies of small bowel specimens obtained at autopsy are not valid since autolysis occurs quickly after death. With the discovery that children with celiac disease and adults with non-tropical sprue improve on a gluten-free diet and that exacerbations occur while eating gluten products, a more specific test became available. The similarity of these two diseases was further proved when it became possible to biopsy the small bowel mucosa with per oral biopsy instruments. The biopsy specimens were strikingly similar. Recently we have had the opportunity of studying a child with celiac disease and an adult with non-tropical sprue. A per oral small bowel biopsy was obtained from each patient prior to treatment with a gluten free diet. The clinical response and histological findings are similar to those previously reported.

**CASE REPORT NO. 1.** This five-year-old white female first entered the Maine Medical Center in 1957. A history of diarrhea of two weeks duration was obtained. She had lost sub-cutaneous tissue and her ab-

domen had become protuberant. Physical examination at that time showed an emaciated white female with very little muscle mass. The abdomen was protuberant. There was a loss of muscular tissue. The remainder of the physical examination was normal.

Laboratory data showed an initial hemoglobin of 9.7 grams, 61%, with a hematocrit of 27. White count and differential were normal. Urinalysis and blood urea nitrogen were normal. Total protein was 4.35, albumin 3.15, globulin 1.20. Duodenal aspiration was done and was positive for trypsin. She was treated with a high-protein, low-fat diet with multivitamins and was requested to return to the pediatric clinic for re-evaluation.

She did reasonably well. In 1958 she was placed on a gluten-free diet. The few months prior to admission, however, financial problems at home made adhering to this diet impossible. She again developed diarrhea. Her legs became red and swollen and she was re-admitted to the Maine Medical Center in March of 1959 for re-evaluation. Physical examination showed a small, pale, female with puffy eyes, large abdomen and swollen legs. The remainder of the physical examination at this time was essentially within normal limits.

Laboratory data showed a hemoglobin on 10.5 grams, 66%. White count was 11,200 with 60% lymphocytes and 40% polys. Urinalysis was within normal limits. Blood phosphorus, potassium, sodium, blood urea nitrogen and glucose were all within normal limits. Total protein was 3.25, 2.0 albumin and 1.25 globulin. Calcium was 7.1 mgm.%. Urine for phenylketonuria was negative. An oral glucose tolerance test showed a flat curve. An intravenous glucose tolerance test showed

\*From the Departments of Medicine and Pediatrics and the Gastrointestinal Research Laboratory, Maine Medical Center, Portland, Maine. Presented in part at the Portland Meeting of the Maine Society of Internal Medicine, January 28, 1961, Portland, Maine

\*\*Chief of the Gastrointestinal Research Laboratory, Maine Medical Center, Portland, Maine



a normal type of curve. BSP, serum transaminated, serum bilirubin, alkaline phosphatase were normal. Cholesterol was 214 mgm.% with 47% esters. Duodenal drainage was done and specimens were obtained before and after stimulation with magnesium sulphate. Specimens were positive for lipase and 3 to 4 plus positive for trypsin. Electroencephalogram was mildly abnormal and consistent with mild diffuse cerebral dysrhythmia and cortical dysfunction. X-rays of the long bones showed demineralization. An upper gastrointestinal series with a small bowel series showed clumping, dilatation and segmentation of the small bowel, consistent with a diagnosis of celiac disease.

On April 7, 1959 a small bowel (upper jejunal) biopsy was done by means of a Crosby Capsule. Pathological interpretation was "irregular atrophy of the mucosa consistent with celiac disease."

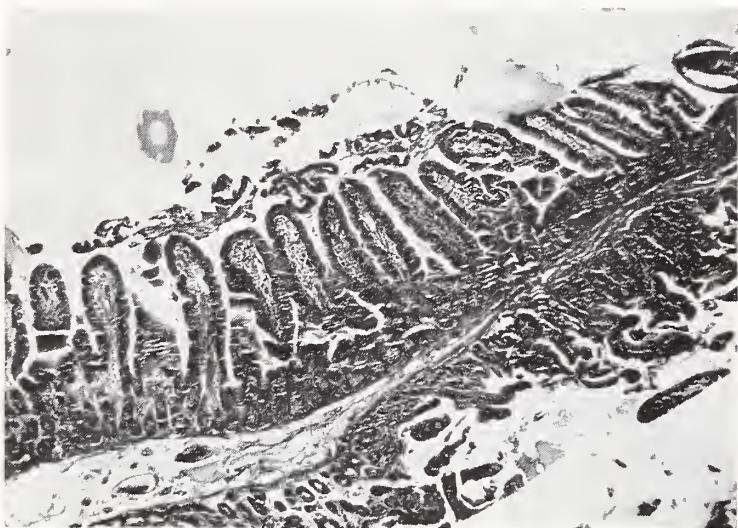


Fig. 1. Normal small bowel mucosa (low power)

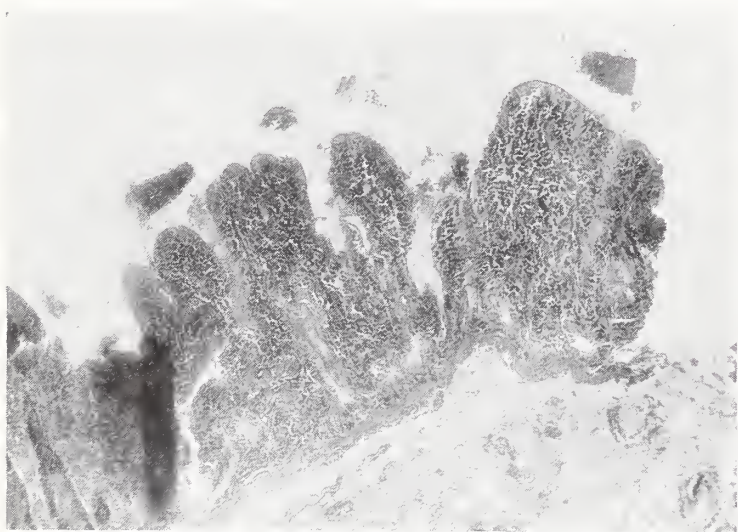


Fig. 2. Case No. 1 Small bowel biopsy showing moderate atrophy and clumping of villi.

The patient was treated on a high-protein, low-fat, gluten-free diet and she did remarkably well. There was clearance of her edema; her mental status improved; she became more out-going. She gained weight, from 25 pounds on admission to 31 pounds after four weeks.

She was also given multivitamins, calcium lactate, iron and pancreatin. She was discharged to a foster home where it was hoped to continue her on a gluten-free diet.

Follow-ups in the foster home showed that it had been impossible for the patient to be maintained on a gluten-free diet; but she had been maintained on a low-gluten diet. She had done remarkably well, gaining weight, having one or two soft bowel movements a day. She entered public school and has become friendly, alert and well-liked.

**CASE REPORT NO. 2.** This forty-year-old, white female was first admitted to the Maine Medical Center on August 12, 1958. At that time she had a four months' history of diarrhea with a thirty pound weight loss. In this respect the patient stated that she had had diarrhea as a child, and a somewhat protuberant abdomen. During the four months prior to admission she had developed diarrhea up to twelve bowel movements a day. Her stools were yellow, floated, foamy, and somewhat foul-smelling. She had received various symptomatic medications for her diarrhea but it failed to improve. There had been a recent development of slight pedal edema. Four days prior to admission she developed spasm of her hands which would curl inward and were uncontrollable. Physical examination showed a well-developed but poorly-nourished, dehydrated, middle-aged white female. There was a prominent bony deformity of the left frontal area which had been present since the age of four. There was no glossitis or cheilosis. Breasts were atrophic and small. Abdomen was slightly distended but no organs or masses were palpable. A positive Trousseau's sign and positive Chvostek's sign were present. The remainder of the physical examination was normal.

Laboratory data showed a hemoglobin of 11.2 grams, hemacrit of 37, normal white count and differential. A fasting blood sugar, blood urea nitrogen, electrolytes were normal. Calcium was 8 mgm.%; total protein was 3.5 with a 1 to 1 ratio. Oral glucose tolerance test showed a flat curve with the greatest rise being to 94 mgm.%. Intravenous glucose tolerance test was normal with a rise to 185 mgm.%. A duodenal aspiration was done. While not completely satisfactory it showed essentially normal amylase and trypsin determination; lipase was not done. Stools were searched for parasites and none were found. Stools tested for fat were 3 to 4 plus.

A barium enema, showed decreased motility but otherwise was normal. Upper gastrointestinal series showed a dilated small-bowel pattern which was consistent with non-tropical sprue. During her course in the hospital, the patient was sigmoidoscoped and this was normal. She was given calcium lactate orally and calcium gluconate intravenously, multivitamins intramuscularly and orally, a high-protein, high-carbohydrate, low-gluten diet. She was also given anticholinergics and kapectate.



The patient was discharged from the hospital and re-admitted in January 1959 for a small bowel biopsy to be done by means of the Crosby Capsule. This was accomplished without difficulty. Pathological interpretation showed definite atrophy of the mucosa consistent with non-tropical sprue.

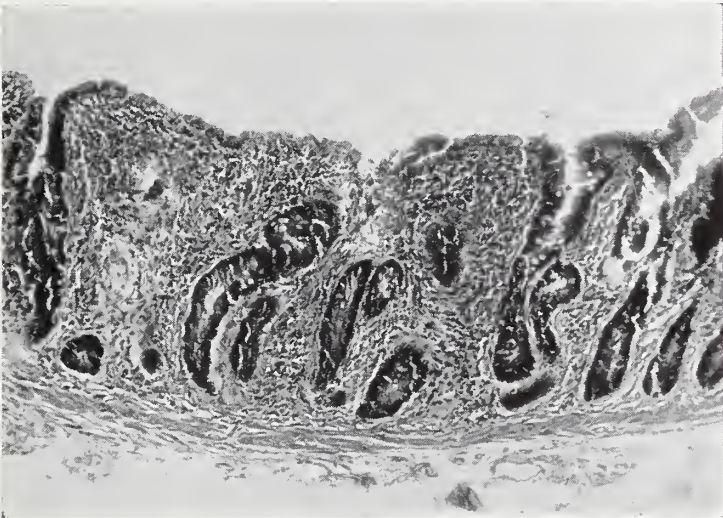


Fig. 3. Case No. 2 Small bowel biopsy showing marked atrophy and clumping of villi.

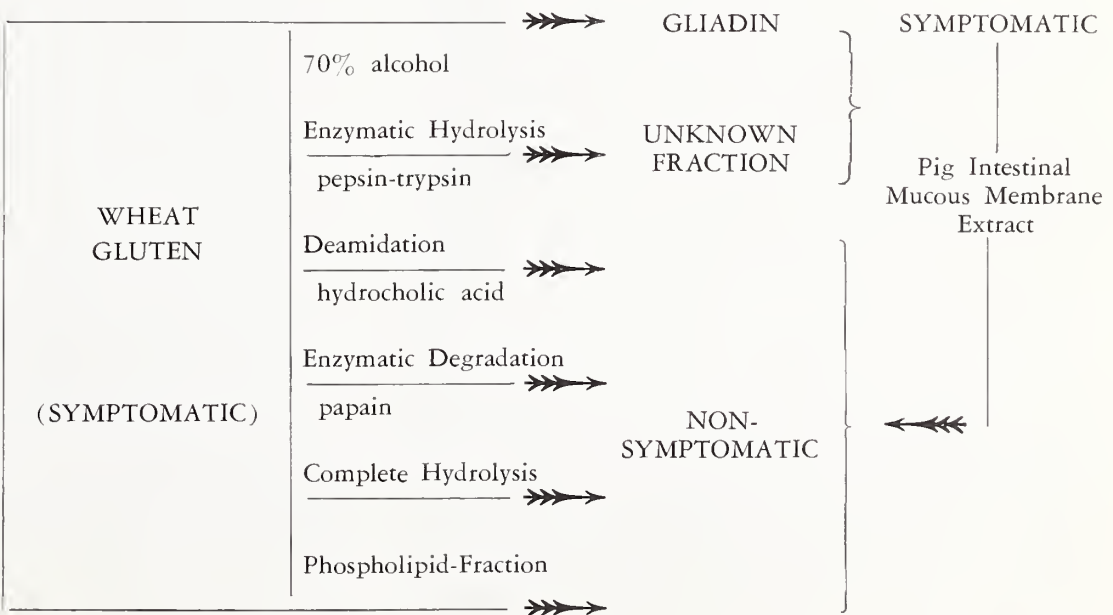
The patient was then followed in the gastrointestinal clinic and continued on multivitamins, high-caloric, high-protein, low-gluten diet, calcium lactate and oral iron. Hemoglobin rose to 14.8 grams with a hemacrit of 46. Calcium became 9.7 and then rose to 11.2. Protein became 7.6 with an albumin of 5.35 and globulin of 2.25. Clinically she did remarkably well. She gradually discontinued all medication except for one multivitamin pill a day. Her bowel movements stabilized to one or two bowel movements a day which remained yellow and continued to float. She quickly learned that when she had episodes of constipation she could promptly develop diarrhea by eating gluten and its products. During her episodes of remission, she would frequently try to enjoy foods containing gluten but

would soon develop mild steatorrhea, which would respond to removal of gluten products.

DISCUSSION

In the past steatorrhea has been used as a test of celiac disease and non-tropical sprue. It became apparent, however, that twenty or more other diseases will cause steatorrhea.<sup>1</sup> The high content of stearic acid in the fecal fat was then considered diagnostic; but further studies showed the stearic acid to come from unabsorbed dietary fat. In celiac disease and non-tropical sprue, fecal fat is predominately saturated, long-chain, fatty acids<sup>2</sup>. These acids are solid in nature and melt usually above body temperature. Unsaturated, short-chained fats are more readily absorbed than the previously mentioned long-chained, saturated solid fats. With steatorrhea there is an element of bacteria overgrowth. The fatty stools then become foamy and foul-smelling. This part of the problem is improved by antibiotics. Some observers were misled by this finding and believed the difficulties in non-tropical sprue were entirely infectious in origin. Recent studies have shown this concept to be incorrect in non-tropical sprue; in tropical sprue this may be true.

In 1953 Van de Kamer, et al, demonstrated that wheat gluten and not wheat starch caused the diarrhea in celiac disease and non-tropical sprue. Further biochemical studies showed the gliadin fraction of gluten to be one of the offending products. Pepsin-trypsin hydrolysis of wheat gluten also gives a deleterious fraction, which is not gliadin. The deleterious products appear to be of relatively low molecular weight, heat-stable, and ultra-filterable. They are destroyed by enzymes present in pig intestinal mucosa, as is gliadin, and become non-deleterious. The phospholipid fraction and the fractions obtained after complete hydrolysis or after deamidation by hydrochloric acid or enzymatic degradation by papain are also non-deleterious. The deleterious product is probably a peptide or peptides. A diagram of our present knowledge follows<sup>3</sup>:



It is postulated that the deleterious products in wheat act in (1) an allergic (antigen-antibody) fashion or (2) by a direct toxic action<sup>4,5</sup>. These products cause either mucosal damage or decreased motility, or both. Mucosal damage or decreased motility will in themselves reduce fat absorption. The allergic (antigen-antibody) effect has yet to be proved. Indirect evidence supporting this is in the improvement seen with steroids; steroids have a definite anti-allergic effect in other diseases. The direct toxic theory is supported by experimental proof showing that gluten inhibits production of acetylcholine.

The present concept suggests that an enzyme exists in the normal small-bowel mucosa; and this enzyme renders innocuous the deleterious agent in wheat gluten. In celiac disease and non-tropical sprue this enzyme is either absent or decreased. While this is theoretical and unproved, the familial background of the disease is given to substantiate it<sup>6</sup>.

With the advent of per oral biopsy of the small bowel, numerous mucosal biopsies in celiac disease and in non-tropical sprue have been done. An abnormal specimen was found in non-symptomatic as well as symptomatic patients. This abnormality consists of shortening and clubbing, and occasionally sticking together, of the villi; frequently plasma cells and lymphocytes heavily infiltrate the abnormal mucosa<sup>7</sup>. It is not clear whether these changes are specific for celiac disease and non-tropical sprue. Shiner feels that villous atrophy is non-specific; but in non-tropical sprue and celiac disease it is irreversible regardless of the duration of treatment; while in other conditions, such as postgastrectomy steatorrhea and tropical sprue, these changes revert to a more normal mucosa after adequate treatment<sup>8</sup>. Rubin and associates, however, state the celiac-sprue lesion in the upper jejunum is apparently specific and probably pathognomonic as it was not found in any of their controls having steatorrhea<sup>9</sup>.

#### TREATMENT

On a gluten-free diet functional recovery occurs first. Histological improvements by biopsy may take months to years if it occurs. Small bowel motility appears more sensitive to the absence or presence of gluten. Most patients are sensitive to gluten although they may appear clinically cured. Long-term studies have shown that there are gradations of gluten sensitivity in these diseases. Patients responding poorly to a gluten-free diet have been reported but a gluten-free diet may be necessary for months before recovery is clinically obvious. Failures are probably due to incomplete removal of gluten in the diet or possibly inadequate duration of treatment since frequently the patient and/or the physician become discouraged<sup>10</sup>.

Steroids acting in a non-specific fashion may be

helpful. They should not be used initially. While fat is present in increased amounts in the feces, this is no indication to remove fat completely from the diet. Increasing the fat content in the diet will increase the amount of fat absorbed, and as the patient improves he will absorb more fat. A high-calorie diet, water soluble multivitamins including B-12, and calcium are indicated. Small doses of paregoric or codeine, and anticholinergic drugs may also be helpful. Medication can be given either intramuscularly or intravenously if necessary<sup>1</sup>.

An adequate regime could not be carried out on our patient with celiac disease. She is boarding in a foster home and a gluten-free diet is difficult. With the removal of most gluten in her diet, however, she has clinically improved. Our adult patient with non-tropical sprue has shown a dramatic remission in her disease on a gluten-free diet. She takes advantage of the periods of constipation by eating gluten products. Loose bowel movements quickly ensue.

#### SUMMARY

Two patients, one with celiac disease and the second with non-tropical sprue, and their small-bowel biopsies are reported. The concept that celiac disease in children and non-tropical sprue in adults are the same is discussed. The present theories, review of jejunal biopsies, and treatment with a gluten-free diet are reviewed.

(I am indebted to Dr. T. B. J. Strach, chief medical resident, Maine Medical Center, for help in performing the per oral small bowel biopsies by the Crosby Capsule.)

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# Diabetic Coma Followed By A Remission Of Diabetes For Sixteen Months

## A Thirty-Five Year Follow-Up

ELTON R. BLAISDELL, M.D.\*

In the September 29, 1928, issue of the J.A.M.A.<sup>1</sup>, I reported the case history of a girl, aged 11, who after recovering from diabetic coma had remained sugar-free for over a year on a diet sufficient in amount to produce normal growth. It should be stated at this time that the patient was not subjected to a glucose tolerance test which I feel confident would have been abnormal, as it will be noted in my original report that the blood sugar did rise on one occasion after a break in diet but returned to normal without the use of insulin.

Prior to this publication, very few reports of "diabetic cures" or remissions had appeared in the literature. Shortly after this, I received letters of caution from outstanding authorities in diabetes and have in my files helpful remarks made at that time by Drs. Elliott P. Joslin and Frederick M. Allen. Indeed, Dr. Allen saw this patient during the period of her remission when he spoke at the Annual Clinical Session of the Maine Medical Association, and he made the following remarks: "I believe that this girl's acute condition was due to an acute pancreatitis without much actual destruction in the pancreas. I would feel that she should be carefully watched, as any acute infection might easily aggravate the apparently mild diabetes." It will be noted that this is exactly what did happen.

The patient contracted mumps in January, 1929, sixteen months after insulin had been discontinued, and having been alerted to the probability of the return of glycosuria in the presence of an infection, discovered sugar at its inception and started insulin immediately, requiring about thirty units daily. However, following the attack of mumps, she found it impossible to discontinue insulin, which she has taken daily since that time. Furthermore, at about this time it became necessary to gradually increase the food intake in order to produce normal growth, both of which frequently seem to be two of the important causes of increased insulin requirement in the growing child. Strenuous exercise such as playing baseball, bicycling, and running have the opposite effect and this was especially noticeable in this athletic type of girl during the summer months when the insulin requirement would fall to eight or ten

units daily, in spite of an attempt to compensate with extra food, only to rise again to thirty or forty units when she returned to school. At eighteen years of age, the height was 65 inches; the weight 130 lbs; and she was as usual very conscientious in her diabetic responsibilities.

She has been remarkably free of acute infection except for a tonsillar abscess in May, 1942. In July of the same year, the tonsils were removed. During this period, the insulin requirement was about forty units daily but dropped in August to fifteen units. The weight has remained at approximately 130 lbs. except for the period of her only pregnancy in 1948.

The patient was married in 1946 and became pregnant in the spring of 1948, at which time the weight was 134 lbs.; the blood pressure and urine were normal and there was no apparent evidence of vascular changes. She was referred to Dr. Theodore Bramhall who computed the normal expected time of delivery to be February 15, 1949. Increasing doses of stilbesterol were prescribed, the diet was restricted in salt, and the caloric intake was conservative. The diabetes, as usual, was carefully controlled by the patient. In September, the weight was only 138 lbs. and so far the pregnancy was uneventful with blood pressure remaining at the normal level of 120/85. The daily insulin requirement was forty units which had been the average amount necessary during the past five years. During a routine office medical examination on November 26, increased filling of the retinal veins was noted, the blood pressure was 140/85; and although there was no obvious edema, the weight was increasing faster than normal. Dr. Bramhall reported that the baby was apparently healthy and normal in size. The patient was advised to return home, to further reduce her salt intake, to reduce her activity, and to be checked frequently by her family physician. Following these instructions produced no beneficial results, and she was admitted to the hospital on December 29, when the blood pressure was 160/100 and the weight was 154 lbs. The urine showed a trace of albumen and there was obvious edema. The blood urea nitrogen was normal. In spite of bedrest, careful dietary restriction, and large doses of stilbesterol, the blood pressure continued to rise, and in her thirty-fifth week of pregnancy this pa-

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tient with diabetes for twenty-three years was delivered by Cesarean section of a healthy baby weighing seven pounds. Convalescence was uneventful; the edema quickly disappeared and the blood pressure dropped to the previous normal level where it has remained.

There was interestingly very little change in the insulin requirement during and following pregnancy. It ranged from thirty-five to forty units daily until 1957, when without change in weight or apparent change in activity it dropped to the present level of eighteen to twenty units. At the time of the last examination on January 20, 1961, the patient was taking twenty units daily of quick-acting insulin, which was divided into seven before breakfast, five before lunch, and eight before the evening meal. This brings up the question: Why is she taking the older type of insulin which, of course, was the only one available in 1926? The answer is that this is the patient's choice. She was placed on Protamine Zinc and NPH insulin as soon as these were available — alone and in combination with quicker acting insulin. The latter especially was as effective but no more so than the quicker acting insulin alone to which the patient always returned soon after arriving home, with the statement that she could control both the urinary sugar and the reactions much better with the insulin she had always used. The present condition of the patient is convincing evidence that allowing her to choose her own insulin was not harmful.

When last seen in January of this year, she presented the picture of an apparently healthy woman of forty-six years of age with a normal child. The patient's weight was 130 lbs; retinoscopy was normal; the heart rate was 70, the rhythm normal and no murmurs were heard; the blood pressure 128/90; the chest was normal; the abdominal, rectal, and vaginal examinations were negative, including cervical and vaginal pappi; the color of the feet was normal as were the temperature and pulses by palpation; the blood sugar was 120 mgs. % (four hours after breakfast); the CBC and urine were within normal limits and the stool examination showed no blood or excess fat. To those who advocate good control of diabetes — and I belong to this group — this is a good example of what can be accomplished with over a quarter of a century of good control. To those who believe in the "free diet" and give insulin only in sufficient amounts to control symptoms it may appear that this is simply a good example of living thirty-five years with a relatively "mild" diabetes.

#### COMMENT

Numerous reports of remissions in diabetes mellitus have appeared in the literature during the past twenty-five years. In 1957, Dr. Reed Harwood<sup>2</sup> re-

ported a case along with intensive review of the literature, and a year later Dr. Wingate M. Johnson<sup>3</sup> reported two cases. In the last edition of "Treatment of Diabetes Mellitus" by Joslin et al<sup>4</sup>, Dr. Priscilla White states that "the incidence of remissions in juveniles is as high as 30%" and that "an omission of insulin is not permitted in juveniles, but the remission phase is designated when the daily dose falls to two to four units." This seems to me to be very safe and sound advice. Even though the insulin requirement may drop to three or four units daily, and it will often do so during the summer months, the child must be supplied with sufficient calories for normal growth, and during the months and years of growth the total body mass will presumably grow much faster than the already decreased functioning pancreas. My patient undoubtedly would soon have required insulin even without any demonstrable infection.

The problem is somewhat different in the adult diabetic, but my early teaching of "once a diabetic, always a diabetic" has served me well. To be sure, one often sees in the adult, especially in the obese, a complete disappearance of the disease after slight reduction in diet and weight only to see it reappear shortly after the previous manner of living has been resumed. On the other hand, there is the rare individual with an unexplainable normal glucose tolerance response even years after an attack of apparently "acute diabetes." Further knowledge of the action of our oral hypoglycemia agents may cast further light on the external and internal factors governing pancreatic function.

#### SUMMARY

A case history of a diabetic who developed a sixteen months' remission of her disease shortly after being in coma in 1926 is reviewed after a thirty-five year follow-up. Remissions in diabetes have been discussed and words of caution suggested for the management of those rare patients whose disease has apparently disappeared. Attention has been called to the apparent importance of diabetic control and normal weight in the maintenance of good health and the prevention of complications.

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# The Development Of An Open-Heart Surgery Program In A Community Hospital<sup>†</sup>

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WILLIAM H. AUSTIN, M.D.,\*\*\* and EMERSON H. DRAKE, M.D.\*\*\*\*

Open-heart surgery easily qualifies as the most effective weapon to be developed against heart disease since the therapeutic effects of foxglove were described by Withering in 1785<sup>1</sup>. Our present ability to understand and treat acquired and congenital cardiac lesions has been the direct outcome of intensive study in the areas of hemodynamics and extracorporeal perfusion, most of which has been accomplished within the last fifteen years.

The purpose of this report is to describe the development of open-heart surgery in a community hospital, explaining the need for its inception and emphasizing the pitfalls that are part of its evolution. It is beyond the scope of this paper to detail a particular method, to dwell on operative statistics, or to describe specifics of diagnosis and treatment.

Before intracardiac surgery can be attempted, at least two requirements must be met. First, facilities for the complete and accurate diagnosis of cardiovascular abnormalities must be provided. These include, in part, well-equipped and efficiently staffed cardiac catheterization and roentgenological laboratories. Second, it is necessary that the volume of clinical service be sufficient to justify the great cost of procuring and maintaining equipment and personnel.

At this hospital, the first step in providing improved evaluation of patients with potentially correctable cardiac defects came with the establishment of the Surgical Cardiac Diagnostic Clinic in 1951. Staffed by members of the Departments of Cardiology, Surgery, Pediatrics and Radiology, and with cardiologist consultants from Boston in attendance, this clinic has met monthly to examine and discuss patients referred from this and other hospitals, from the state's Crippled Children's Clinics, and from private physicians. The need for

further diagnostic work, the indications for surgery, and the relative merits of various surgical approaches constitute the usual subject matter of this clinic.

The development of a laboratory for cardiac catheterization followed shortly thereafter. This is a highly technical procedure which requires complex electronic equipment. The instrumentation of our present laboratory includes an eight-channel physiologic recording system equipped to monitor simultaneously the signals from at least two pressure transducers, an electrocardiograph and a phonocardiograph. External or intracardiac phonocardiography can be performed, using either a stethoscopic microphone or a phonocatheter. An image intensifier unit greatly facilitates passage of the catheter and makes possible cine-angiography. A Waters Densitometer for measurement of indocyanine dye-injection curves is in current use. Through the accumulation of this equipment and the experience gained by its routine use, the cardiac catheterization laboratory is capable of providing as complete and accurate hemodynamic studies as are produced by any other clinic in the country. Expert technical help is obviously essential. In Figure 1 the growth of the various services in clinical cardiology at this hospital is graphically presented.

As a result of the Surgical Cardiac Diagnostic Clinic and the catheterization program, a large number of patients were found to be candidates for open-heart, as

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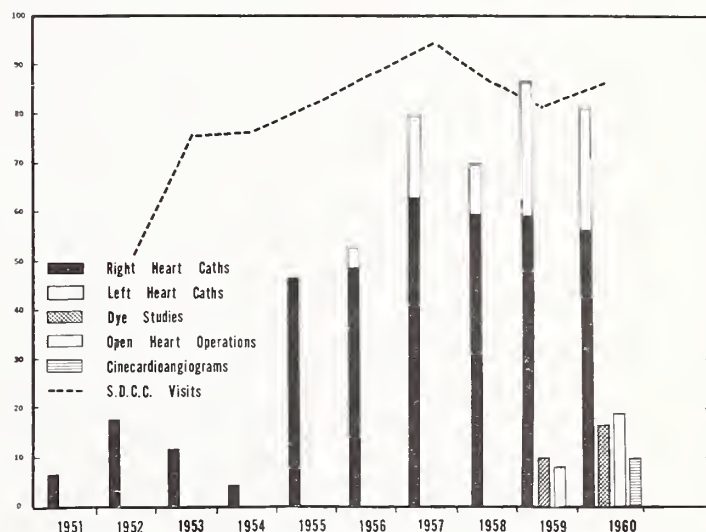


Fig. 1. Clinical Services, Cardiology Department, M.M.C., 1951 through 1960.

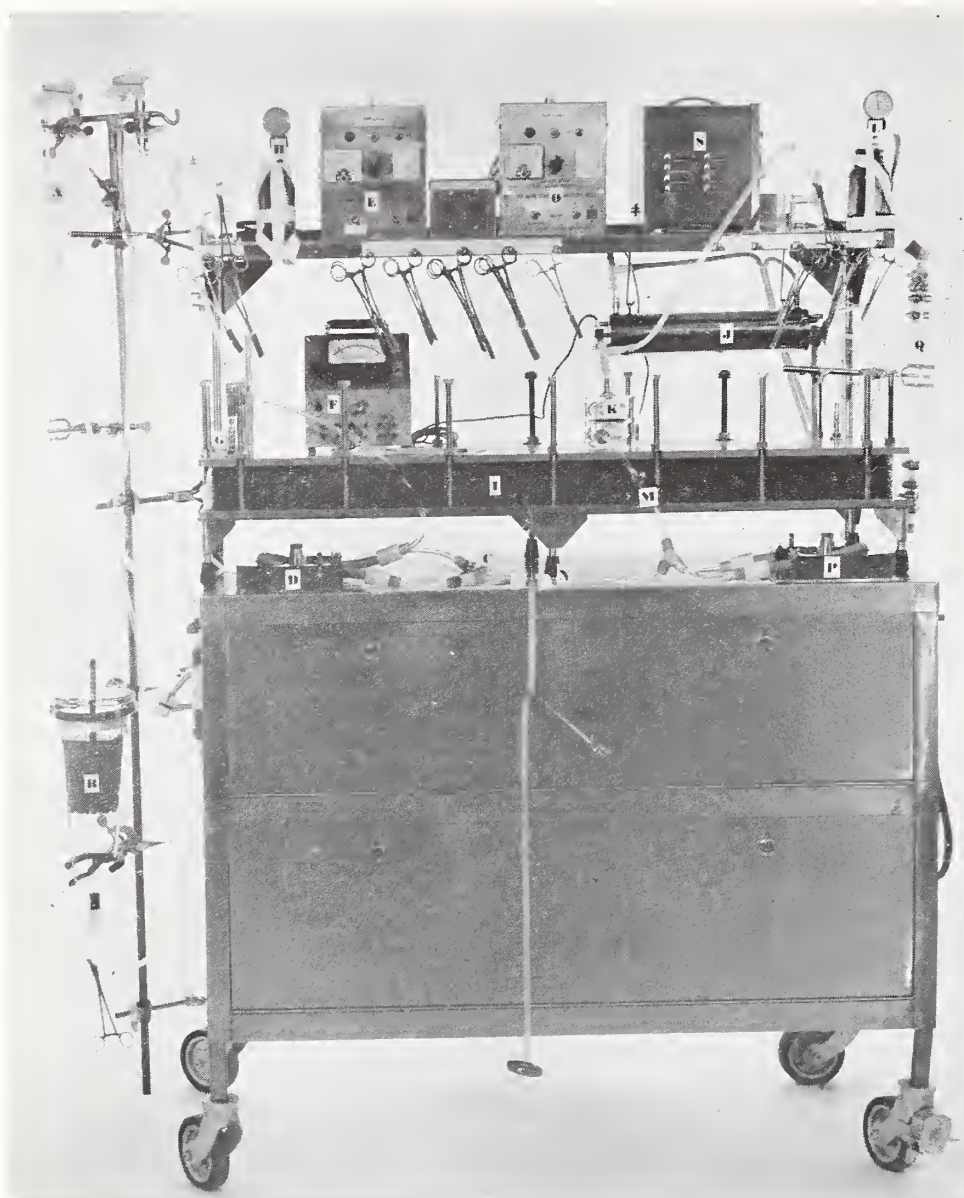


Fig. 2. Photograph of Mark-Clowes Membrane Oxygenator

- A. RESERVOIR
- B. ANTIFOAMER
- C. INFLOW LINE
- D. INFLOW PUMP
- E. INFLOW PUMP CONTROL
- F. ELECTRONIC THERMOMETER
- G. OXYGEN INFLOW
- H. INFLOW PRESSURE GAUGE
- I. MEMBRANE OXYGENATOR
- J. HEAT EXCHANGER
- K. BUBBLE TRAP
- L. OUTFLOW PRESSURE GAUGE
- M. RESISTANCE CLAMP
- N. SHUNT
- O. OUTFLOW PUMP CONTROL
- P. OUTFLOW PUMP
- Q. FLOWMETER
- R. OUTFLOW LINE
- S. RESERVE PUMP CONTROL

opposed to closed-heart, surgery by the end of 1957. Representative diagnostic categories included septal defects, pulmonic and aortic valvular stenosis, tetralogy of Fallot, and others.

Up to this time it was necessary to refer these patients to medical centers outside of the state where cardio-pulmonary bypass was performed. This method of disposition became increasingly difficult, since waiting lists were intolerably long, the expense to the patient overwhelming, and the provision for blood donation complex. To solve these problems, it was decided late in 1957, to establish an open heart program at the Maine Medical Center.

The implementation of this decision required obtaining a suitable pump-oxygenator. To accomplish this, two physicians from this hospital toured the country investigating the techniques of others. Then, as now, three basic methods of oxygenation were available: filming, bubbling, and membrane diffusion.

The instrument used in the first successful open cardiectomy with total body perfusion performed on a human (May 6, 1953)<sup>2</sup> was a screen oxygenator

developed by Gibbon<sup>3</sup>. The patient's venous blood, as it passed through this machine, was filmed over vertical screens hung in an atmosphere of oxygen. It was then recollected by gravity, filtered, and pumped to the patient's arterial tree. In the ensuing years a modification of this system was developed by Kay and Cross<sup>4</sup> in which blood was filmed on discs rotating partly submerged in a reservoir of blood and partly exposed to oxygen.

A second, somewhat simpler method of oxygenation was developed at the same time by DeWall and Lillehei<sup>5</sup>. Their method entailed direct bubbling of oxygen through a column of blood. Prior to returning this blood to the patient it was necessary to remove the resultant froth from this system with an antifoamer.

A third type of oxygenator, developed by Clowes<sup>6</sup>, had the important attribute of presenting oxygen to blood in a much more physiologic manner. In this machine unsaturated venous blood was passed through envelopes of semi-permeable Teflon membrane, while oxygen was blown along the outside surface. The pore size of the membrane was such that oxygen diffused



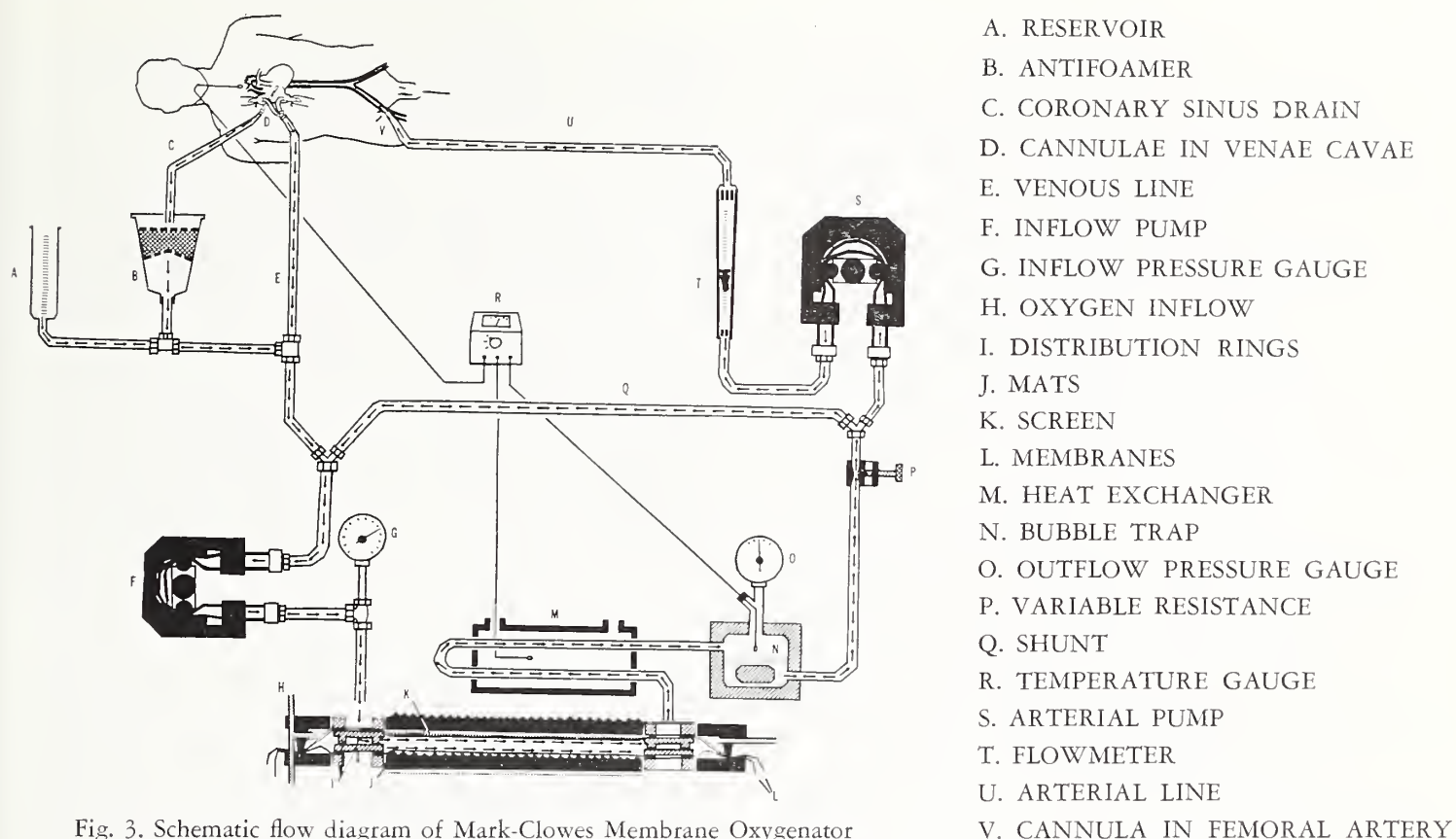


Fig. 3. Schematic flow diagram of Mark-Clowes Membrane Oxygenator

into the blood, carbon dioxide diffused out, yet there was no loss of plasma. In spite of its somewhat greater size and complexity, the superiority of the principle of this machine lead to its being selected for use at the Maine Medical Center. A photograph of the fully assembled pump-oxygenator and a flow diagram of its circulation are presented in Figures 2 and 3.

Shortly after the apparatus arrived, in the Spring of 1958, it became evident that much developmental research had to be carried out before it could be used in human surgery. Indeed, this period of development lasted for fifteen months, during which time more than a half-dozen physicians and technicians devoted many hours of free time each week to the project. As a result of the endless number of experiments and dry runs, countless improvements, additions and changes were made in the machine. At the same time experience was gained in a method which is absolutely essential to open-heart surgery; the team approach. The first candidate for operation was selected in May, 1959.

Given any new and untried clinical method, two approaches to patient selection present themselves. One may choose relatively simple therapeutic problems routinely, and thereby extend his technical experience with minimal risk, or he may offer his new method to all, giving priority to those who most urgently need its benefits. During the first year we held to the former philosophy with excellent results both in terms of patient survival and technical progress. From May, 1959, to August, 1960, eighteen patients underwent cardiopulmonary bypass. Sixteen had atrial septal defects either isolated or associated with anomalous pulmonary veins or pulmonic stenosis. Two had pulmonic

stenosis alone. In this group, comprising our first eighteen consecutive cases, there has not been a single mortality; a figure which compares perhaps more than favorably with the initial results of other centers.

During this interval many improvements were brought about in all aspects of the program. Administratively, for instance, a frustrating roadblock was removed by obtaining the services of an individual to assume responsibility for blood procurement, since an average of eleven units of freshly drawn whole blood are needed during the patient's operative and post-operative course. A definitive, step-wise plan for case evaluation and follow-up was established (Figure 4).

Hospital or Private Physician



Maine Medical Center Cardiac Clinic or  
State Crippled Children's Cardiac Clinics



Diagnostic Workup (EKG, Fluoroscopy, Catheterization, etc.)



Surgical Diagnostic Cardiac Clinic



Blood Typing, Cross Matching, Donor Procurement



Open-Heart Surgery



Outpatient Follow-up, Maine Medical Center Cardiac  
Clinic (2 Weeks, 2 Months, 6 Months, etc.)

Fig. 4. Flow Diagram of Case Evaluation and Follow-up

<i>Diagnosis</i>	<i>Total Number of Patients</i>	<i>Deaths</i>	<i>National Mortality*<sup>15, 16</sup></i>
Atrial Septal Defect, Secundum	15	0	5.7-0.9 (4.7)
Atrial Septal Defect, Secundum, with Anomalous Pulmonary Veins	4	0	
Valvular Pulmonic Stenosis	3	0	9.0-0.0 (3)
Valvular Pulmonic Stenosis with Atrial Septal Defect, Secundum	3	1	
Infundibular Pulmonic Stenosis	1	0	
Endocardial Cushion Defect (Ostium Primum)	1	1	
Ventricular Septal Defect	1	0	29-4.7 (15)
Ventricular Septal Defect with Pulmonary Hypertension ("Eisenmenger's Physiology")	1	1	
Congenital Valvular Aortic Stenosis with Patent Ductus Arteriosus	1	0	
Congenital Aortic Stenosis	1	0	
Calcific Aortic Stenosis	2	1	±50
Calcified Left Atrial Thrombus with Rheumatic Mitral Stenosis	1	1	
Congenital Aneurysm of the Ascending Aortic Arch	1	1	±20

\*Figures given are maximum,  
minimum and average percent-  
ages given in references cited.

Fig. 5. Mortality Statistics, Open-Heart Surgery Program, Maine Medical Center, May 1959 to June, 1961

A major improvement in patient care was brought about simply by changing the day of surgery from Thursday to Tuesday. The surgeons bettered their own techniques during the same period by adopting the median sternotomy approach and by changing the type of arterial cannula. An advance in perfusion procedure resulted from the development of a method for producing hypothermia by means of blood-stream cooling.

Satisfied that we had become adept at practicing the fundamentals of cardiomy and perfusion, it seemed justified to relax our policy of patient selection at the end of our first year.

From the table of operative statistics (Figure 5), it is evident that as the pathology became more complex, the mortality rose. For most of the deaths during the second year, there has been no single cause. Many of these patients, though candidates for surgery by established criteria, were operated on in the presence of borderline cardiac decompensation, severe ventricular hypertrophy, or pulmonary hypertension. Operative risk has been increased by the necessary prolonging of

cardiopulmonary bypass, by ventriculotomy, by extended elective cardiac arrest.

The occurrence of mortalities which cannot be completely understood focuses attention on the many unexplained aberrations in normal physiology caused by cardiomy and total body perfusion. It is important to emphasize that these alterations have plagued workers throughout the world, and cannot be laid to peculiarities of local techniques. Acidosis, low cardiac output, respiratory failure, abnormal renal function and blood volume changes comprise the major postoperative abnormalities noted. Much investigation has been done analyzing the effects on these conditions of flow rate<sup>7</sup>, elective cardiac arrest<sup>8</sup>, length of perfusion<sup>9</sup>, hypothermia<sup>10</sup>, contaminating materials<sup>11</sup>, pre-existent pulmonary vascular disease<sup>12</sup>, and many other factors. In spite of this massive collection of data not enough is known as yet to be able to predict, prevent, or even treat the catastrophes of open-heart surgery.

Investigation at this hospital is currently aimed at the evaluation of two metabolic changes which have



been noted in some of our patients. The first is an unexplained<sup>13</sup> early postoperative diuresis; the second is a shift in acid-base balance producing what may previously have been erroneously considered a "pure" metabolic acidosis<sup>14</sup>.

The comments above clearly indicate that an open-heart surgery program cannot be operated by part-time physician personnel or maintained entirely by a technician staff. In these respects it does not lend itself to the average community hospital setting where the economy of money and time prohibit such an expensive and time-consuming project. On the other hand, where this service can be established not only are patients who might be denied surgery cured, but the education of the entire medical community is enhanced by the type of physiological thinking that is part of each patient's work-up, operation and postoperative care.

#### SUMMARY

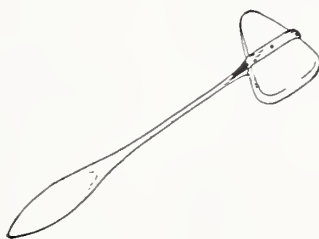
In this report some of the problems inherent in the establishment of an open-heart surgery program in a community hospital are discussed. Operative statistics for the first two years are presented. Some comments are made regarding physiological abnormalities produced by this procedure in our own and other clinics.

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# Hemodialysis In Acute Renal Failure And Drug Intoxication

(A review of causes, indications for dialysis and management with case reports)†

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The value of the artificial kidney in treating acute renal failure<sup>1,3</sup> and in removing various poisons<sup>4,6</sup> has been well established. Table I shows some of the more common etiologic factors producing acute renal failure. Recently stress has been placed on early dialysis in reducing both the morbidity and mortality<sup>7</sup>. The indications for hemodialysis in acute renal failure may be summarized as follows:

1. Severe hyperkalemia (7.0 mEq/L or greater)
2. BUN of 150% or more which is rapidly rising, particularly associated with severe uncontrolled acidosis.
3. Clinical deterioration as manifested by personality changes, coma, convulsions, nausea, vomiting or hyper-reflexia even in the absence of clear-cut chemical indications.

The medical management of this disorder is discussed later and at length elsewhere<sup>8</sup>.

The indications for dialysis in drug intoxication or poisoning are very clear-cut. Dialysis reduces the mortality and morbidity from prolonged periods of coma. Table II lists some of the common dialyzable agents which might be encountered in clinical medicine.

In general, there are two major indications for the use of artificial dialysis in treating poisoning from barbiturates and hypnotics.

1. Deepening coma and anesthesia especially if associated with areflexia and/or shock.
2. Ingestion of a fatal dose of the drug, (i.e. 3 Gm. of short acting barbiturate; 5 Gm. of phenobarbital; 5-15 Gm. of Doriden)

A false sense of security may be gained from the knowledge that a patient has ingested a sub-lethal dose of a given drug. Often two or more poisons are ingested simultaneously unknown to the clinician. Always the clinical appearance and course of a patient should be paramount.

We have been interested in the problem of methyl alcohol intoxication and from our experience<sup>6</sup> and from the work of others<sup>9</sup> feel that prompt dialysis may be life-saving in the more severe forms of methanol intoxication.

Two cases are reported from the authors' own ex-

TABLE I

## SOME COMMON CAUSES OF ACUTE RENAL FAILURE

- A) Acute tubular necrosis
  1. Hemorrhage
  2. Hemolysis
  3. Nephrotoxins
    - a) Bichloride of mercury
    - b) Carbontetrachloride
    - c) Ethylene glycol
    - d) Sulfonamides
    - e) Arsenic
    - f) Mercury
  4. Crush injury
  5. Toxemia of pregnancy with cortical necrosis
  6. Heat stroke
  7. Sepsis
  8. Burns
- B) Acute glomerulonephritis

TABLE II

## Dialyzable drugs & poisons

Barbital  
Phenobarbital  
Pentobarbital (Nembutal)  
Amobarbital (Amytal)  
Secobarbital (Seconal)  
Bromides  
Glutethimide (Doriden)  
Meprobamate (Miltown, Equanil)  
Ethynyl-cyclohexyl carbamate (Valmid)  
Salicylates  
Methyl alcohol  
Ethylene Glycol  
Diphenylhydantoin (Dilantin)  
Potassium thiocyanate  
Penicillin

periences at the Maine Medical Center which may help to illustrate some of the above principles.

## CASE REPORT NO. 1

The patient, a 50-year-old white handyman, was admitted to the Maine Medical Center on 12/12/60 with a history of ethylene glycol ingestion 6 days prior

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to admission. During a drinking spree, the patient consumed approximately 200-300 ml of Zerone anti-freeze, and two days later noted a decrease in urinary output. He was subsequently admitted to another hospital where he was treated for acute renal failure and hypertension. After consultation, he was transferred to the Maine Medical Center for artificial dialysis.

Physical examination on admission revealed a well developed plethoric white male in no acute distress. BP 194/96; resp. 24; temp. 98; pulse 80. Positive findings included: narrowing of the retinal arterioles with moderate A-V compression changes. Examination of the chest revealed increased AP diameter with inspiratory and expiratory wheezes heard over the right lung field. The liver edge was palpable  $2\frac{1}{2}$  cm below the right costal margin. There was bilateral marked CVA tenderness. There was no edema present and neurological examination was negative except for a fine tremor of both hands.

Laboratory studies on admission showed a Hgb of 12 grams; Hct 38%; WBC 11,300 with a normal differential. Urinalysis revealed 9 white blood cells per high-powered field; 1400 mgms% of albumin and many RBC's. Urine pH was 7.0; S.G. 1.005. Electrolytes: potassium 5.5 mEq/L; sodium 149 mEq/L; chloride 100 mEq/L.  $\text{CO}_2$  content was 14 mM/L; X-ray of the chest showed pulmonary emphysema, but was otherwise negative. ECG revealed tall peaked T-waves in the mid-precordial leads. Flat film of the abdomen showed multiple gallbladder stones. The renal shadows were not clearly delineated.

*Course in hospital:* Patient's urinary output remained below 100 cc's during the first three hospital days. The BUN rose from an initial value of 98 to 133 and potassium from 5.1 to 6.0. The blood pH on the third hospital day was 7.24, plasma  $\text{CO}_2$  content 12.4 mM/L and calculated  $\text{pCO}_2$  28 mmHg.

Treatment up to this point consisted of hypertonic glucose and insulin with sodium bicarbonate intravenously. By the fourth hospital day patient was complaining of severe nausea, showed evidence of mental confusion and increasing neuromuscular irritability. At this time, hemodialysis\* was started, and continued for a period of six hours. The BUN fell from 133 to 65 and potassium from 6.0 to 4.8 (see Fig. 1).

During the following days patient noted symptomatic improvement and urinary output gradually rose in a period of 12 days up to 1600 cc's. The BUN reached a maximum value of 135 then fell to 58 mgms% by the time of discharge.

Because of the clinical improvement and rising urinary output, repeat dialysis was not performed. The patient was discharged on the 30th hospital day to the care of his private physician.

**COMMENTS:** Case 1 — This is a typical case of acute tubular necrosis dialysed not mainly because of

\*Travenol twin coil artificial kidney, Travenol Laboratories, Morton Grove, Illinois.

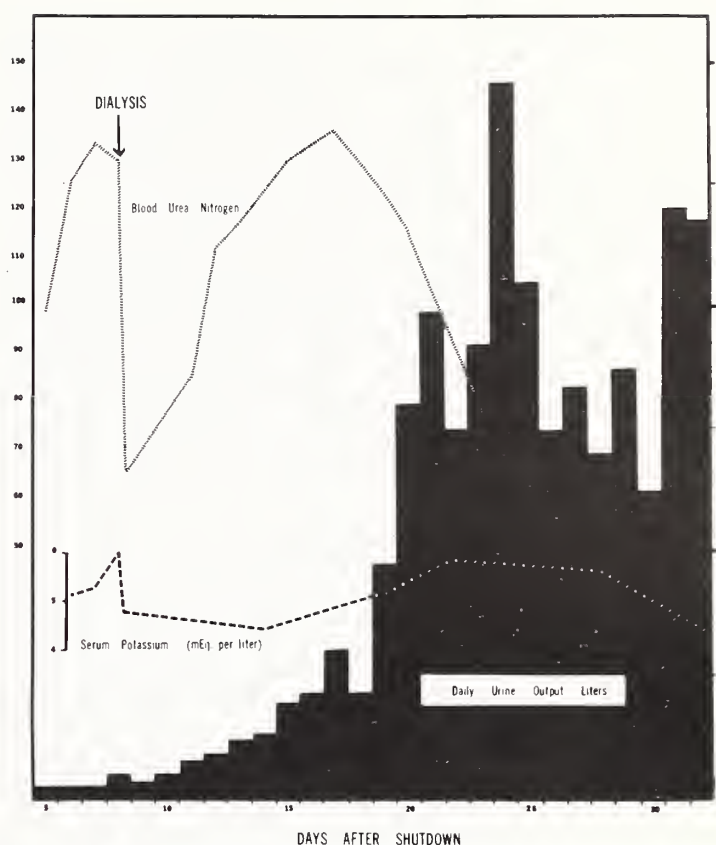


Fig. 1. Changes in urine output, BUN and potassium in Case 1.

chemical indications, but for changes in clinical appearance as outlined above.

## CASE REPORT NO. 2

The patient, a 33 year old white nurse was admitted to the Maine Medical Center 10/6/60 after having been found comatose. History obtained subsequent to her improvement indicated that she had taken an unknown quantity of seco-barbital.

Physical examination revealed a BP of 90/60 and an apical heart rate of 60. She was unarousable and did not respond to painful stimuli. Patient was totally areflexic and apneic.

Laboratories examinations; WBC 5100; Hgb 12.6 grams; BUN 12 mgms%; blood sugar 88 mgms%; pH 5.59;  $\text{CO}_2$  content 11.6 mM/L;  $\text{pCO}_2$  12 mmHg (while on the Bennet respirator); sodium 129 mEq/L; potassium 3.8 mEq/L; chloride 108 mEq/L. Plasma determination for bromides and salicylates was negative, gastric aspirant and urine 4+ for barbiturates.

*Course in hospital:* During the next few hours patient showed no indication of improvement with absent light reflexes, total areflexia and absent corneal reflexes. There was no tendency to spontaneous breathing. Artificial dialysis was started six hours after admission. One hour after the initiation of dialysis, the light reflex was noted to be faintly present. As the dialysis continued, patient began to spontaneously move her head and after one and one-half hours she showed some response to painful stimuli. The Bennet respirator was removed three and one-half hours into the dialysis

and patient appeared to have no difficulty breathing on her own. One half hour after returning to the Ward patient was semi-alert and talking. Clinical improvement continued, with the patient being fully conscious the following morning. She remained improved and was discharged on the seventh hospital day.

COMMENTS: Case 2 — This is a case of a patient who ingested an unknown amount of barbiturates. As is characteristic with this type of patient, the response to dialysis occurred during the course of treatment. This is in contradistinction to the group of patients treated for acute renal failure by hemodialysis. Here the clinical response is often not apparent for 24 hours after hemodialysis.

### DISCUSSION

A problem frequently encountered by artificial dialysis units is that of delayed transfer. It is not unusual to have patients die en route to hospitals where they are to be treated by hemodialysis. This problem may be avoided by the physician being aware of early clinical and chemical indications for dialysis. The management of patient described in Case No. 1 was greatly facilitated by the attending physicians early referral.

Where proper laboratory facilities are available for careful measurement of electrolytes, peritoneal dialysis may be useful. However, in the severely ill patient, hemodialysis is preferred. This is true of the patient in acute renal failure as well as the patient with drug intoxication. Occasionally it is necessary to transfer the patient with severe hyperkalemia to a Center for dialysis.

Prior to dialysis the use of 20-50% glucose with 1 unit of insulin per 5 grams of glucose may be effective in lowering the serum potassium level. This must be continued on an around-the-clock basis and we have found it convenient to use a microdrip apparatus\* in a cephalic vein cutdown. The use of sodium exchange resins, Kayexalate\*\*, 15 grams four to five times a day with a cathartic such as 70% sorbital solution\*\*\* given (10-20 ml every two hours until diarrhea produced) in order to remove the resins from the gastrointestinal tract<sup>10</sup>. Often the combination of glucose insulin and exchange resins are necessary in order to effect appropriate lowering of the serum potassium. Occasionally the hyperkalemia can be temporarily controlled by injecting 1-2 L of 5% dextrose and saline into the peritoneal cavity just prior to transfer of the patient. Many clinicians feel that this is life-saving and will enable the patient to reach an artificial kidney center<sup>11</sup>. Bicarbonate administration from 1 to 3 ampules (44-132 mEq) daily may also be an essential part of the treatment in acute renal failure in order to combat metabolic acidosis which is usually present. Other than aiding in lowering the potassium, hypertonic glucose

provides calories for maximum protein sparing effect. It is desirable to administer 100 to 150 grams of carbohydrate intravenously or by mouth. Potassium containing foods, particularly orange juice, coca-cola as well as high protein foods must be rigidly avoided. Ginger ale is a good low potassium-high carbohydrate fluid. Potassium penicillin should not be used in renal failure.

Antibiotics should be used with care in kidney shutdown as toxic blood levels may be achieved with normally therapeutic amounts<sup>12</sup>. This is especially true of streptomycin and nitrofurantoin. Potentially toxic by-products of chloramphenicol are elevated in shutdown even though the antimicrobial component may have a normal half-life.

Some clinicians feel it advisable to give aluminum hydroxide gel to decrease the absorption of phosphorus from the gastrointestinal tract. The use of oral or intravenous calcium is often indicated in patients with acute renal failure.

Medical management of the patient with drug intoxication should in almost all cases include gastric lavage. It is important to note that bicarbonate solution should not be used particularly in patients who have ingested barbiturates. This treatment may enhance the absorption of bicarbonate and compound an already serious problem. Analeptic agents are of no value in these patients<sup>13</sup>.

The group of patients with Doriden intoxication present a particular problem in that absorption may be irregular or delayed, maximum blood levels not being reached for 24 to 36 hours. Here it is advisable to do repeated gastric lavages. Coma and death may come on rapidly in the patient who seems to be clinically stable. We have tended to lower the requirements for dialysis in this group of patients because of this problem.

The artificial kidney has very limited application in chronic renal disease. The results in patients with advanced chronic disease or mild chronic disease with a superimposed acute process are very discouraging<sup>14</sup>. The same holds true with active inflammatory or vascular disease (i.e. glomerulonephritis, collagen-vascular disease). Our own experience (10 dialyses) in this group of patients tends to confirm these observations. The exception is in those patients with polycystic kidneys<sup>15</sup>. Here hemodialysis is frequently of benefit for long periods of time. There is some evidence that renal biopsy may be of value in the selection of patients with chronic renal disease<sup>16</sup> and acute glomerulonephritis<sup>17</sup> for dialysis.

### SUMMARY

A discussion of the causes of acute renal failure and drug intoxication treatable by the artificial hemodialysis is presented. A brief outline of the indications for the use of the artificial kidney in these two groups of patients is also discussed. Two case reports are out-

*Continued on Page 244*

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# General Anesthesia\*

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## INTRODUCTION

Since the introduction of sulfuric ether as an anesthetic agent a century and a quarter ago, the majority of surgical operations have depended, for their success and safety, upon the art of producing artificial unconsciousness, commonly referred to as "general anesthesia." Accounts of the demonstration by William Morton, and the earlier accomplishments of Crawford Long, leave little doubt that the condition that was then sought, and achieved, was a dulling of sensibility, or analgesia, rather than the unconscious state. As familiarity with ether and chloroform was gained, and as the expansion of surgery demanded more profound narcosis, the state of true anesthesia, later documented by Guedel, became more commonplace. Unfortunately in this medical art, as in most others, the increased confidence of the practitioner in his drugs led to increased morbidity and mortality directly attributable to over-enthusiasm and overdosage, and to his incomplete understanding of the untoward side effects of those drugs on the bodily functions of his patients. The depressant effects of ether on the circulation were gradually recognized, especially during long operations which required deep narcosis. Cyclopropane seemed to be less toxic in this regard, but when relaxation was achieved with cyclopropane the rhythm of the heart was often disturbingly abnormal. Griffith's contribution of curare as a clinically safe relaxant of skeletal muscles set the stage for anesthesia as we practice it today — light, supplemented anesthesia, often referred to as "balanced" or "literal" anesthesia.

## BALANCED ANESTHESIA

Light supplemented anesthesia is the use of minimal effective doses of two or more drugs to achieve that anesthetic state which will be required to guide each individual patient safely through the particular operative procedure. These requirements may include a light sleeping state or forgetfulness; analgesia to painful stimuli; relaxation of striated muscles; obliteration or obtundation of undesirable reflex phenomena and assistance, alteration, or support of certain vital functions.

## SLEEP

The sleeping state is almost universally induced today by the intravenous injection of a thiobarbituate such

as Pentothal.® The "crash" induction, in which a high blood level of the hypnotic is established by the rapid injection of a single large dose, meets with less and less approval because of the high incidence of cardiovascular and respiratory collapse, requiring urgent resuscitation. The safety of a cautious induction by the slow injection of Pentothal, with simultaneous ventilation of the patient with generous flows of oxygen, has been established clinically and in the laboratory, and few patients need be denied this pleasant method of achieving the sleeping state. A concentrated suspension of Pentothal, for administration by the rectal route, obviates the need for venipuncture in pediatric anesthesia, and is much more rapid in onset, with earlier awakening, than the commonly-employed aqueous solutions of the drug for rectal instillation.

Maintenance of the sleeping state during operation usually requires the intermittent injection of a hypnotic or narcotic, unless a potent inhalation anesthetic is employed. There is little objective evidence to indicate any superiority of pentobarbital or secobarbital as compared to thiopental; however, when the patient requires unusually large amounts of any of these drugs during the first half hour of his anesthetic, synthetic or natural narcotics may be substituted, provided n-allyl normorphine (Nalline®), or levallorphan (Lorfan®) is available to antagonize the depressant effects of the narcotic. The injectable hypnotics and opium derivatives all share the common disadvantage that their elimination is wholly dependant upon efficient renal and hepatic function. In practice it is therefore customary and prudent to allow an inhalation agent to contribute to the sleeping state, so that the time of awakening will, as a rule, be reasonably prompt and predictable.

## ANALGESIA

The inhalation agents are, fortunately for us and for our patients, excellent analgesics. They are, in fact, the only true analgesics in that they diminish or abolish pain *perception*, in contrast to the opiates, which depend, for their usefulness, upon an alteration of the *reaction* to pain. Nitrous oxide tops the list of agents, in terms of usefulness, popularity, and safety in providing analgesia and contributing to hypnosis. Rapidity of action, lack of toxicity, nonexplosibility, and ease of administration more than compensate for its imperfect potency. But there are times when we must abandon nitrous-oxide for a stronger agent, lest we overdose our patient with injectable depressants.

In America today, it is indeed the rare hospital in which ethyl ether does not occupy a prominent place

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in the list of potent inhalation anesthetics. Better understanding of its properties, and rediscovery of its potential as an analgesic have enhanced its usefulness in our daily practice, despite its drawbacks and limitations. In addition to its well-known value as a bronchodilator and respiratory stimulant, during light anesthesia, ether is the only anesthetic with a clinically useful curariform effect at the myoneural junction of striated muscle. Here is the only muscle relaxant whose action will *always* be self-limited, provided respiration, by which route it is eliminated, is maintained. It is possible to supplement the relaxation provided by ether, when it is insufficiently intense for the operation, by establishing a blood level of another non-depolarizing relaxant, such as curare or gallamine, a blood level of the injectable drug low enough to be relatively ineffective and non-toxic after the operation, when the ether has been eliminated. The additive effect of ether and curare is well-known. Provided only the *required* relaxation is achieved by this combination, one can be reasonably assured that the operation will not be followed by prolonged apnea or hypoventilation. Another valuable characteristic of ethyl ether relates to its reliability as an analgesic. The analgesic potency of extremely light (first stage) ether anesthesia was rediscovered with the advent of cardiac surgery, and dramatically publicized by Artusio<sup>1</sup>. Many patients whose hearts, seemingly, could stand no added burden survived "ether analgesia" without incident. The skillful combination of analgesia with amnesia might well be called "balanced anesthesia without loss of consciousness." However, even the slightly higher concentrations of ether required to produce surgical anesthesia are directly depressing to the heart, and Brewster and others have demonstrated that the degree of cardiac depression is proportional to the depth of ether anesthesia<sup>2</sup>.

In clinical practice, Bunker and his coworkers reported a higher incidence of circulatory depression with ether, particularly in the elderly, and in women, who had undergone upper abdominal surgery than when Pentothal, nitrous oxide, and a muscle relaxant had been employed<sup>3</sup>. The combination of light ether and curare was not studied.

Cyclopropane is an excellent analgesic, and is less depressing to the heart than ether; but it lacks specific relaxing properties, depresses respiration, and shares with ether flammability. The use of cyclopropane for the patient whose circulation is precarious requires less skill than does ether analgesia, and therefore may be somewhat safer.

Trichlorethylene has little to recommend it as a widely useful analgesic, and is generally reserved for brief orthopedic manipulations and comparable procedures.

Fluothane, despite its growing popularity, is still an experimental anesthetic. Its value in neurosurgery has been established, although its superiority over conventional light supplemented anesthesia for neurosurgery

has not been proven. Asthmatic patients tolerate Fluothane well, and this agent is excellent for brief procedures on out-patients, as is trichlorethylene. Fluothane's propensity to depress circulation compounds the difficulty of diagnosing accurately hypotension that may occur during abdominal and thoracic operations; and the rapidity of action of this extremely potent anesthetic may be more of a disadvantage than an advantage, unless the anesthetist is constantly alert, and is possessed of accurate, infallible equipment.

#### RELAXATION OF SKELETAL MUSCLES

In addition to light sleep and analgesia, some degree of muscular relaxation is often an important characteristic of a satisfactory general anesthetic. Publication of the clinical use of curare by Griffith and Johnson<sup>4</sup> in 1942 opened a new era for anesthetists and surgeons, and marked the end of the era of deep narcosis. With the universal acceptance of curare its untoward effects soon became evident, as mortalities due to deep anesthesia were replaced by deaths which implicated curare as a contributing or causal factor. Histamine release by curare is felt to be the cause of occasional episodes of severe spasms of the respiratory passages; and partial blockade of the autonomic ganglia by curare results, on occasion, in decreases in systemic blood pressure. The most serious of its adverse effects, however, relate to respiration. Our knowledge of artificial support or control of breathing during an anesthetic permits acceptance of some degree of respiratory paralysis during the need for surgical relaxation. Unfortunately, curare has pronounced residual effects on respiration and the persistence of curare in the blood probably accounts for the postoperative respiratory abnormalities described by Bendixen, et al<sup>5</sup>, and the respiratory complications encountered by Bunker and associates<sup>3</sup>. Residual effects are especially prolonged when renal or hepatic function is impaired. Prostigmine will effectively antagonize residual weakness produced by curare, and is employed in some countries quite routinely. If atropine is administered prior to prostigmine, to block the muscarinic effects of the latter drug, there is probably less danger from prostigmine than American clinicians have been led to believe. Perhaps the respiratory morbidity that has been reported after the use of curare would be substantially reduced if we were less reserved in our use of prostigmine. At the present time it is seldom used by us unless respirations are obviously inadequate in the recovery period, following the use of curare.

Succinylcholine entered the pharmacological scene with a blare of trumpets, and was soon flowing like water into the veins of anesthetized (and partially-anesthetized) patients everywhere. What more could anyone desire than an ultra-short-acting drug with specificity for the myoneural junction, a depolarizing effect like natural acetyl-choline, and a susceptibility to hydrolysis by ever-present cholinesterase into two totally



inert substances, succinic acid and choline, not foreign to the cells of the normal organism? Hope springs eternal, — but time tempers enthusiasm. Anesthetists soon learned by their experiences, and those of others, that perverse succinylcholine could not be relied upon to exhibit any of these attributes of a perfect relaxant at all times. For some reason that is still obscure, the postjunctional membranes of the myoneural apparatus develop a resistance to prolonged depolarization, and a curariform-type of paralysis, or "mixed block," ensues<sup>6</sup>. This may or may not be antagonized by cholinesterase inhibitors such as prostigmine, which would prolong the "pure" depolarization block. Furthermore, before the end products succinic acid and choline are produced, succinylmonocholine is formed; and though this is relatively weak as a relaxant, it may be highly resistant to further hydrolysis by cholinesterase, and often accumulates sufficiently to prolong relaxation or even apnea. Thoughtful clinicians have become more cautious in their use of succinylcholine, out of respect for its perversities, and occasionally shun it in favor of curare or gallamine, which they had all but abandoned.

#### CONTROL OF UNTOWARD REFLEXES

Up to this point I have presented what might be referred to as a philosophy of balanced anesthesia. During the conduct of anesthesia, certain unfavorable reflex phenomena are prone to occur, in response to such abnormal stimuli as surgical manipulation, unusual position, or the pharmacological agents or mechanical devices of the anesthetist. Time does not permit a comprehensive dissertation on the subject of reflexes, but one of these ominous reflexes deserves consideration, because of its much greater frequency since deep narcosis has been all but replaced by light supplemented anesthesia. The trigger for this reflex is a foreign body, called an endotracheal tube, in the windpipe; the response is familiar to everyone who has at one time or another observed, and probably experienced, the strangulation that occurs when the tiniest crumb of toast accidentally enters the passage for which it was not intended. During the "ether era" this problem was not so great. Intubation was generally delayed until profound depression of the central nervous system had been achieved; and the long exposure of the sensory receptors in the larynx to the irritating vapors of ether had produced some degree of accommodation, before passage of the tube. If, through faulty judgement, the patient was too light, at least the physiological torture of intubation was not compounded by simultaneous surgical manipulation of the patient's viscera. Experience with the art of light anesthesia, in which sedation, paralysis, and intubation may be accomplished in fairly rapid sequence, has resulted in our recognition of the need for adequate topical anesthetization of the tracheal structures. Administration of a muscle relaxant, of course, cannot be considered an acceptable substitute for topical anesthetization of the trachea. Only the voluntary muscular responses to

afferent impulses from the trachea can be temporarily modified by additional overdosage with a muscle-relaxant; the visceral responses during light anesthesia, often referred to as "bronchospasm," "vago-vagal reflexes," or "histamine-like" reactions, can only be obtunded by complete blocking of the nerves of the larynx by a local or topical anesthetic. Opinion is divided on the relative value of transtracheal or trans-laryngeal injection, as compared to the topical application by a spray of the local anesthetic agent. The route of application seems less important than the anesthetist's understanding of the drug, and its potential toxicity, and his willingness to delay insertion of the endotracheal tube until topical anesthesia has become well-established.

#### PROTECTION OF VITAL FUNCTIONS

As soon as induction of anesthesia is accomplished, and as the state of balanced anesthesia is achieved, the anesthetist assumes the traditional role of guardian of his patient's welfare. He may choose one of the many mechanical devices available to help him insure adequate ventilation of his patient's lungs, or may elect to employ the "educated hand" on the bag of his anesthesia machine; it is indeed the rare patient whose respirations are neither assisted nor controlled by the modern anesthetist. The flow and distribution of the patient's blood is subject to alteration by drugs, selected from the anesthetist's portable pharmacy, and injected into the intravenous infusion; or the patient's body temperature may be reduced by artificial means, to lower oxygen consumption and protect cellular function during unusual surgical maneuvers. Scientific enlightenment is conferring to the guardian at the head of the table ever increasing power to modulate his patient's organic functions. The compassionate physician utilizes this power to maintain or restore *normal* function, as it may be disturbed by his own medicines and technics, by the surgeon's onslaughts, or by the patient's disease. The deliberate production of abnormal function will properly be left to the scientists in their laboratories, except for those rare surgical procedures which require, for the patient's safety, intentional disruption of the normal physiological state.

The added responsibility which expanding knowledge has imposed upon us has given us cause for sober reflection of the methods we employ to measure the vital functions of our patients, and other variables that are subject to our control. We question the adequacy of intermittent observations of the pulse and blood pressure, estimation of the patient's color, and occasional peeks at the pupils of the patient's eyes. It is certain that we stand on the threshold of a new era, — the era of objective measurement, or monitoring. The physics and electronics of the space age have made it possible for us to monitor continuously innumerable variables. We apply such technics to a few patients with special problems. In the new era, with improvement and simplification of equipment, the "educated guess" of the

anesthetist will be supplanted by continuous objective measurement of a growing number of variables for an increasing number of his patients. Then, and only then, can we sincerely refer to our conduct of general anesthesia as a science, rather than an art.

#### SUMMARY

1. Light supplemented anesthesia has rightfully replaced deep narcosis for most modern surgical procedures.
2. Nitrous oxide, ether, and cyclopropane are among our most useful inhalation agents.
3. Ethyl ether is highly effective as an analgesic, without deep narcosis, and its unique curariform effect on striated muscles makes the use of large doses of curare unnecessary, and disappears as the patient exhales the ether and awakens.
4. The respiratory complications which have been observed following curare might be substantially reduced if atropine, followed by prostigmine, were to be routinely administered whenever curare had been employed.
5. Adequate topical anesthetization of the larynx and trachea is essential if endotracheal intubation is to be employed during light anesthesia.

6. In the future, an increasing number of patients will benefit from modern techniques of objective measurements, or "monitoring," that are presently reserved for patients who exhibit rare or unusual problems.

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### HEMODIALYSIS IN ACUTE RENAL FAILURE AND DRUG INTOXICATION — *Continued from Page 240*

lined to demonstrate these principles. Comments are made concerning transport and medical management of patients with acute renal failure and drug intoxication.

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# Reconstructive Vascular Surgery\*

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Reconstructive vascular surgery has progressed extremely fast during the past decade and today has reached a point where the percentage of successful results is most gratifying. The mortality and morbidity of these procedures are also now quite acceptable. The percentage of early and late failures of certain procedures, mainly those involving the lower limbs, is still too high, but, as newer techniques are developed and more knowledge is gained about the etiology and pathogenesis of arteriosclerotic disease, it is hoped that a lower failure rate will be seen.

About seven years ago, vascular surgery was begun at the Maine Medical Center. At that time a blood vessel bank was established and, as in other medical centers throughout the country, arterial homografts and venous autografts were used initially for blood vessel replacement or bypass procedures. It soon became apparent that arterial homografts were unsatisfactory, and, as the newer prosthetic materials have become available, dacron and teflon grafts have emerged today as the most satisfactory prosthetic material and have virtually replaced homografts. Venous autografts, however, are still extremely successful and especially adaptable in small vessel surgery.

Three acceptable techniques of vascular reconstructive surgery are available; excision with graft replacement, bypass graft and thrombo-endarterectomy. In cases of occlusive disease the choice of procedure is usually determined by the location and extent of disease and the experience of the operating surgeon. The indications for reconstructive vascular surgery are now fairly well established and the results of most procedures can be predicted with a high degree of certainty.

We plan to discuss some of the more common vascular lesions found below the diaphragm which are amenable to surgery and to briefly discuss the current surgical indications and treatment.

## ABDOMINAL AORTIC ANEURYSM

This disease is being recognized more and more today, and, it being a disease usually of the older age group, we can perhaps expect to encounter more aneurysms as the life span increases. Abdominal aneurysms are almost always arteriosclerotic in nature and about 70% of aneurysms are found in patients over 60 with males outnumbering females about five to one.

There have now been made many careful studies of the life expectancy of people with aneurysms, and adequate time has elapsed for a reliable comparison of the life expectancy of these people with and without surgery. Without surgery 70% of people with abdominal aneurysm will be dead within three years compared with 12% of the normal population. With resection and grafting the life expectancy of these people is improved 50%. This still lags that of the normal population about 10%, and it is attributed to the associated disease which these patients often have. The principal danger of abdominal aneurysm is massive fatal hemorrhage, which is usually retroperitoneal or occasionally may present as massive upper GI hemorrhage by perforation into the third portion of the duodenum. The last review of the literature revealed 63 cases of rupture of abdominal aneurysm into the GI tract with fatal hemorrhage. In 60% of these cases there was adequate time between the initial symptoms and death to allow for surgical intervention. The mortality of resection of asymptomatic aneurysm is now down between five and 10%, but unfortunately this mortality rises to well over 50% when signs and symptoms of hemorrhage are present. In view of the lethal nature of this disease, which is in reality comparable to malignant lesions, surgical treatment should be recommended in these people who have no major contraindications to surgery and who are reasonable surgical risks.

The diagnosis of asymptomatic aneurysm is usually made by careful abdominal examination or may be noted incidentally on a routine KUB. A lateral X-ray of the abdomen is very helpful when one suspects the presence of an aneurysm. Mild symptoms may be present and may vary from vague epigastric distress to severe constant back or leg pain. Often the first indication or symptom of this disease may be the pulsations of the aneurysm noted by the patient himself.

The surgical treatment is complete excision and replacement with a dacron or teflon prosthetic graft.

## AORTO-ILIAC OCCLUSIVE DISEASE

Occlusive disease involving the aorta or iliac vessels is due to arteriosclerosis and is typically segmental in nature. Common sites are at the aortic and iliac bifurcations. The symptoms produced by this level of occlusive disease are unilateral or bilateral intermittent claudication, which usually is higher than with femoral occlusive disease with patients complaining of pain in their thighs or gluteal areas. If the aortic bifurcation is markedly involved or if the internal iliac circulation is diminished significantly, impotency in the

\*Presented in part at Maine Medical Center on Alumni Day, May 11, 1961

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male is a common complaint. Quite often the patient's initial complaint is marked fatigue with a sense of heaviness in his buttock and legs and with progressive reduction in physical activity and inability to carry out simple tasks without prompt exhaustion.

The diagnosis is not difficult and can usually be made clinically by careful physical examination with findings of diminished or absent femoral pulses. The presence of a bruit over the iliac or common femoral vessels is not uncommon and indicates a varied degree of stenosis of the vessels at that level or above. Peripheral tissue nutrition may be perfectly normal due to adequate collateral circulation, and the distal vascular tree is almost always patent. Aortograms are extremely helpful, although not always necessary to accurately ascertain the location and degree of occlusive disease.

Both endarterectomy and bypass grafting have been used with very good results. If the disease is fairly well localized to one or two segments of the aorto-iliac system, endarterectomy is preferred. If the disease is diffuse and extensive, involving both iliac arteries and the aortic bifurcation, a bypass teflon or dacron graft is preferable. The results of reconstructive surgery at this level have been very satisfying, and it is unusual to have early or delayed closures regardless of the technique employed.

#### FEMORAL OCCLUSIVE DISEASE

Perhaps the most commonly encountered peripheral vascular lesion is segmental femoral occlusion. These patients present with symptoms of either progressive intermittent claudication or painful ischemic ulcers of the distal extremities. There are many patients with occlusions of their femoral arteries and no symptoms or only mild intermittent claudication, in whom the collateral circulation is sufficient to maintain the distal limb. This patient may get along perfectly well for years and is best left alone, since his collateral circulation around the occlusion is probably the best bypass graft he could possibly have. At the present time we feel the only indication for femoral arteriography and reconstructive surgery at the femoro-popliteal level is severe intermittent claudication or rest pain interfering with a patient's livelihood or progressive ischemic necrosis which is threatening the loss of life or limb.

A typical history in these people is one of slowly progressive intermittent claudication over a number of years with sudden worsening of their claudication with or without rest pain. The pathology involved is usually progressive arteriosclerotic stenosis of the superficial femoral artery with, finally, complete occlusion or propagation of a pre-existing segmental thrombosis and shutting off of collateral circulation above or below the occlusion. The most common sites of occlusion are at the level of the femoral bifurcation, adductor canal and upper popliteal artery. Physical examination almost always reveals the presence of femoral pulses with absence of pulses below and the usual signs of

chronic peripheral arterial insufficiency such as shiny atrophic skin, loss of hair and a dusky red foot which becomes pallid on elevation. Oscillometric recordings at the calf level with an ordinary blood pressure cuff are often very helpful in evaluating circulation at this level, when one has difficulty in palpating the popliteal artery. It is unlikely to find any oscillations at the calf with complete occlusion of the superficial femoral artery. Femoral arteriograms are necessary in these cases for an accurate picture of the location and extent of occlusion and, more importantly, for visualization of an open popliteal bifurcation, which is a prerequisite for reconstructive surgery. As long as either the anterior or posterior tibial artery is patent, surgical correction of the obstruction is possible. It is difficult to predict clinically which patients will have a patent operable distal circulation, but, with the absence of rest pain or advanced ischemic necrosis, arteriography will demonstrate a patent distal circulation in the majority of cases.

Femoral arteriography is a simple benign procedure without morbidity and probably should be done in all patients who are facing a major amputation because of pain or in whom distal necrosis is either minimal or localized to a single digit which could be amputated later, if restoration of circulation is possible.

The type of operation indicated at the femoro-popliteal level will vary with the extent and location of disease, but endarterectomy today appears to be the most satisfactory procedure regardless of the length or location of the obstruction. Bypass prosthetic grafts from the femoral to the popliteal artery which cross the knee joint have not proved satisfactory, and the percentage of immediate and delayed closure of these grafts is so high as to prohibit their use when other techniques can be utilized. The venous autograft bypass at this level apparently has been quite satisfactory with an extremely low percentage of delayed occlusions. In some cases of delayed closures, it has been possible to successfully perform a second reconstructive procedure with restoration of distal circulation.

There is a small group of patients who may present a clinical picture of rather sudden occlusion of their femoro-popliteal systems and in whom arteriograms reveal no patent popliteal artery or distal circulation. These patients often face early amputation because their collateral circulation has not had a chance to develop, and the sudden ischemia will produce severe constant pain with rapid distal necrosis of muscle and skin. In this type of case, even though X-rays show no distal patency, exploration at the popliteal level is indicated prior to amputation. In a small number of patients, circulation may be restored by distal and proximal endarterectomy and thrombectomy.

#### VASCULAR LESIONS OF VISCERAL ORGANS

Atherosclerotic stenosis of the renal, celiac and superior mesenteric arteries has been shown to be seg-



mental in nature and is amenable to surgical treatment in carefully selected cases.

When this disease involves the renal arteries, it produces a severe hypertension via the "Goldblatt Phenomenon." Diagnosis is possible through various procedures, including intravenous pyelography, retrograde pyelography with split function studies (Howard Test) and, most definitively, by renal artery visualization utilizing translumbar aortography. Revascularization of the kidney is now possible, employing many different techniques with a high degree of success.

The clinical diagnosis of stenosis of the superior mesenteric or celiac arteries is difficult but sometimes possible in patients presenting symptoms of intestinal angina. This consists usually of crampy, epigastric pain occurring about one or two hours after meals and associated with progressive weight loss. Aortography is required for a definitive diagnosis and, if a localized stenosis is demonstrated, surgical correction is usually possible. Once the lesion has progressed to complete occlusion, producing signs and symptoms of bowel infarction, the likelihood of restoring circulation is very poor, although a few successful cases have been reported.

Although aneurysms of visceral organs are extremely rare, one may encounter these lesions unexpectedly during abdominal exploration. They also may be the basis of unexplained abdominal pain and produce other atypical clinical pictures. These aneurysms may involve the celiac, hepatic, splenic or superior mesenteric arteries and carry the same danger of rupture common to all aneurysms. These lesions should be resected and vascular continuity reestablished, where it is essential for life.

#### ANTICOAGULANT THERAPY

At this writing, long term anticoagulant therapy has not yet been shown to lower the incidence of immediate or delayed closure in reconstructive surgery and is rarely used as a prolonged prophylactic measure. Heparin anticoagulation is utilized during the operative procedures and often for a short time during the immediate postoperative period. Anticoagulants are of course indicated in acute arterial embolization and during investigation and evaluation of acute thrombosis of the femoral or iliac arteries.

#### LUMBAR SYMPATHECTOMY

The place of lumbar sympathectomy in peripheral vascular surgery is still somewhat uncertain. It usually is indicated in association with aorto-iliac reconstruction, especially when there is evidence of distal occlusive disease. It is also worthwhile in some patients with minimal superficial skin necrosis of the distal

extremity who are not candidates for reconstruction but who show evidence of fairly extensive collateral circulation. The most favorable results from sympathectomy can be expected in people who are in the younger age groups and who exhibit evidence of vasomotor activity. Many diabetics with minimal skin necrosis and occlusive disease limited to the lower leg and foot with circulation at the popliteal level will often benefit significantly from lumbar sympathectomy.

#### FIBRINOLYSIN THERAPY

Although there have been a few encouraging clinical studies reporting the efficacy and safety of fibrinolytic therapy in dissolving fresh clots, it is still too early to draw any definite conclusions as to the therapeutic usefulness of these drugs in acute arterial occlusions. The indications for use of these agents are not yet well established. The dosage and plan of administration is still ill defined, and the high cost of this therapy makes one reluctant to employ it at this time.

#### SUMMARY AND CONCLUSIONS

Abdominal aortic aneurysms carry an extremely grave prognosis comparable to cancer of the bowel, and surgical excision with graft replacement should be recommended in patients who are a reasonable surgical risk.

Occlusive disease of the aorta, iliac and femoral vessels can produce incapacitating symptoms interfering with livelihood or distal ischemic necrosis which may threaten the loss of life or limb. This disease is almost always segmental in nature, can usually be diagnosed clinically without difficulty, visualized accurately by angiography and, in a high percentage of patients, can be successfully corrected surgically.

Segmental occlusions of the renal, celiac and superior mesenteric arteries can produce disabling symptoms which may ultimately prove lethal. Surgical revascularization of these vessels is possible in certain carefully selected cases.

Aneurysms of visceral organs, although uncommon, are lethal conditions and should be treated by excision and reestablishment of circulation when possible.

Further clinical and experimental studies are needed to establish the exact place of lumbar sympathectomy, anticoagulant and fibrinolytic therapy in the field of peripheral vascular surgery.

Although there are still many problems to be solved, the overall results of most reconstructive vascular procedures are gratifying enough to continue an aggressive and optimistic approach toward the correction of these lesions.

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# Analyzer For Electrocardiographic And Other Bio-Electric Potentials

CLIFFORD V. NELSON, Ph.D.\*

It is well known that when a cardiac muscle cell is stimulated, the normal resting transmembrane potential is altered and a flow of current takes place between the excited and unexcited regions of the cell. During the contraction and relaxation of the heart, this current flow occurs simultaneously in large numbers of cells. Since the heart is immersed in a conductive medium, the currents spread throughout the body. The current flow through this "volume conductor" gives rise to potentials at the surface of the body which are measured with the electrocardiograph. The task of electrocardiology is to evaluate the condition of the heart from the potentials measured at the body's surface. (Geophysicists are faced with rather a similar problem, since they must obtain information about the earth's interior from measurements made essentially on the surface).

It has been found that as far as electrical activity is concerned, the heart can be considered as a battery, with one minus and one plus pole. The combination of minus and plus poles is referred to as a "dipole" and the "dipole moment,"  $M$ , is simply the product of current strength,  $I$ , and the distance between the poles,  $D$ . That is,  $M = ID$ .

The reason why the problem of interpretation is so difficult is that the direction and magnitude of the dipole change rapidly during the cardiac cycle. For a given dipole orientation, i.e. at a fixed instant of time, there is a certain distribution of voltage over the thorax. At another instant of time, the distribution may be completely different. Thus one has to deal with a "space-time" voltage variation.

The leads used in clinical cardiology show the time variations of voltage at fixed points on the body. In order to obtain more detailed information, instruments have been built to display visually the potentials in certain regions. Historically, these were first designed to study the electroencephalogram, but were also applicable to heart potentials. In one of these<sup>1</sup> an array of electrodes was placed on the cortex. Each electrode was connected through an amplifier to a glow tube. The light intensity in each tube was proportional to the potential, so that one could observe the variations either visually or by photographs.

Another instrument of this type<sup>2</sup> used a specially constructed tube containing 16 grids, each connected to a pick-up electrode. An electron beam scanned the grids in succession, and bright or dark areas appeared on a cathode-ray tube corresponding to the locations of the electrodes. Motion pictures of the screen were taken to record the changing patterns.

Although these instruments were very useful in giving a picture of the potential variations over a certain area, they were not convenient for obtaining quantitative data. Accordingly, an analyzer has been designed and constructed at the Maine Medical Center which provides a series of graphs of potential against electrode position on a hot-stylus recorder<sup>3</sup>.

## DETAILS OF THE SYSTEM

In a typical experiment, 20 electrodes are fastened around the thorax at the same horizontal level. If only one level is taken, this is at the fourth intercostal space. Connections are also made to the limbs of the subject to provide a Wilson central terminal reference. Each electrode goes to the input of an amplifier. A console of 20 model P-9 preamplifiers was obtained from the Grass Instrument Company. The console contains a calibration unit, and all 20 amplifiers can be calibrated from the same internal or external signal.

Since the tube filaments require 12 volts at 14 amperes total, a separate Sorensen power supply was purchased for this purpose. Another power supply provides regulated voltage for the plates of the tubes.

The output of each amplifier consists of the electrocardiogram from a certain electrode. All 20 amplifier outputs now connect to a unit called an electronic commutator. This unit was designed by Leonard Bowles of the Department of Electrical Engineering of the University of Maine, and was constructed and tested by Arthur Wilkinson at the Maine Medical Center. The commutator unit can be thought of functionally as consisting of 20 switches. Each amplifier connects to one of the switches, but the other ends of the switches go to a common amplifier. Initially all the switches are open, so that no signal gets through to the common amplifier unit.

When the start button is pressed, switch number 1 automatically closes and remains closed for 50 microseconds. At the end of this time, switch 1 opens and switch 2 closes instantaneously. Switch 2 then remains closed for 50 microseconds. Switch 2 then opens,

\*Cardiology Research Laboratory, Maine Medical Center, Portland, Maine. Established Investigator, American Heart Association. This project was supported by grants from the Maine Heart Association and by grant number H-2590 of the U.S. Public Health Service.



and switch 3 closes. This process is repeated until all 20 of the switches have been closed. As switch 20 opens, switch 1 closes again, and the cycle repeats. These are not mechanical switches but are electrical circuits consisting of transistors and crystal diodes. Technically the circuits are referred to as "gates." When the gate is open, corresponding to the switch closed position, the circuit has a low resistance and the signal passes through. Since all the other gates are closed, they have a very high resistance and the signal is blocked.

The output of the electronic commutator then consists of a series of 50 microsecond samples of each electrocardiogram in succession. Thus a complete scan of all 20 electrodes occurs in one millisecond. The instrument is therefore capable of obtaining 1000 complete circumferential thorax scans per second. By recording for 10 or 15 seconds, ample data is obtained from a given level.

The composite waveforms are either amplified or attenuated by the common amplifier unit. They are then applied to an Ampex model FR-1100 instrumentation-type magnetic tape recorder. By recording at high speed and playing back at slow speed, the data can be slowed down without loss of accuracy. The recorder was designed to have a play-back to record speed ratio of 1 to 128, but a ratio of 1 to 512 has been used successfully. If an attempt were made to record the analyzer data directly, a recording device capable of a speed of 5000 cm per second would be required, assuming 5 cm of record for each 1 msec scan. This could be done with an ultra-high speed camera, but the cost of film would be excessive. Slowing down the data by a factor of approximately 500 reduces the requirement to 10 cm/sec. The tape recorder data is therefore applied to a Sanborn model 320 two-channel hot-stylus recorder, running at a speed of 100 mm per second. A further advantage of the magnetic tape system is that the direct-writer drive can be turned off during the base-line period of the electrocardiogram, thus resulting in considerable economy of paper. If the recorder is run at 1 mm per second, a "histogram" of the response during the QRS and T complexes is obtained in a condensed pattern. It is possible that these patterns may show variations of diagnostic significance for different individuals.

#### APPLICATIONS OF THE ANALYZER IN RESEARCH

The graphs of potential as a function of distance around the chest during successive one millisecond intervals provide a very detailed picture of the thoracic potential distribution. It is assumed that the changes of cardiac excitation are sufficiently slow so that one

millisecond represents a fixed time interval for all electrodes. This assumption is borne out by the initial results. Potential charts of this type provide information about the excitation processes, particularly as to whether one or more dipoles are acting at any instant<sup>4</sup>.

The main reason for developing the analyzer, however, was to obtain data from which it is possible to calculate the dipole moment of the human heart. It has been shown<sup>5</sup> that for any volume conductor containing any collection of current sources, the resultant moment can be found by an integration of potential over the bounding surface. That is,  $M = k [\text{integral } (V dS)]$  where

$M$  is the resultant dipole moment, in ma-cm

$k$  = conductivity of internal medium, ohm-cm

$V$  = potential in mv

$dS$  = element of surface area.

For the case of the human body, the summation is carried out as follows: The 20 electrodes are put around the chest at a certain horizontal level, and potentials are recorded with the analyzer. This process is repeated at several different levels. All records are taken simultaneously with one of the limb leads, which is used for a time reference. For a given potential scan, the potential at each point is multiplied by a factor which is proportional to the chest contour at that point. The area under the resulting curve is then found. The areas for the corresponding curves at different levels are then plotted as a function of the vertical distance. The area under this curve then is equal to the required double integral. The horizontal component of the dipole is found from the above equation, and the vertical component is found from Einthoven's Equation, using the limb lead values.

The advantage of the method is that the absolute magnitude, as well as the direction of the heart vector is given. The value of the results in cardiac diagnosis is still a question for the future.

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DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

# Charting A Forward Course— Social Welfare And Rehabilitative Implications\*

RAYMOND W. HOUSTON\*\*

For some time prior to your invitation to me to speak here today, I had been thinking that there is need for conversation between health and welfare people leading to clarification of functions. It seemed to me that the Department of Health, Education, and Welfare could profitably sponsor such conversations at the national level.

We in welfare keep hearing that the State and Territorial Health officers would like to take over the medical care programs now operated by welfare. Moves have been made to transfer the physical restoration functions of the Vocational Rehabilitation service to Health Departments. There is unease as to the handling of the disability determination function under the Social Security Act because some feel that not enough is being done to rehabilitate the disabled who are made eligible for disability insurance payments. The question of standard-setting and enforcement of standards for hospitals and related medical institutions, particularly nursing homes, is "up for grabs." And the so-called Independent Living proposals languish in the Congress apparently partly because there is no agreement as to where they should be assigned at the State level.

In these matters welfare has a major stake. We have fringe interest in the struggles between the public health and the mental health people as to who shall handle, for instance, the programs for alcoholics, drug addicts and community mental health clinics.

I worry that we spend so much time defending our present assignments under the law or extending them as to lessen our effectiveness in improving the programs which are clearly ours at the present time.

I have some thoughts on some of these issues which I present from the point of view of a welfare administrator. I regret that this is a speaking session rather than a

discussion session for I know mine is a limited viewpoint and that there are other considerations than those I present.

For more than 25 years now the public welfare programs in the Northeastern States have, as a matter of course, provided for the medical and hospital needs of their recipients of public assistance. By and large so have the Northern industrial states and those on the Pacific Coast. Farther South there are more limited programs and still in some twelve states no medical programs at all.

The general pattern in the Northeast is one of agreement with State and local Medical Societies that there shall be free choice of physicians, that reasonable fees shall be paid for services and that policies and planning shall be between the welfare and medical forces of the State. There are agreements with the hospitals and other medical facilities as to rates of reimbursement which mostly approach cost and in some areas equal it. There are also plans and agreements worked out with the pharmacists, the dentists and the visiting nurses.

Quite recently everyone in Washington seems to have gotten interested in our medical care programs — the Public Health Service, the Social Security Administration and the congressional committees. Perhaps they were stimulated by the Social Security medical care proposals or by the Kerr-Mills bill. In any case we in welfare receive this attention partially with gratitude and partially with dismay.

We are grateful that the subject now seems important enough that there is likelihood of additional federal support to what has become to most of us the fastest growing expense item in our welfare programs. In the field of the aging, in particular, where our caseloads are falling, our per case costs are rising because it is we who must meet the bills of expensive medical and medical institutional care for the recipients

\* An address given at the 27th annual New England Health Institute, Colby College, Waterville, June 13, 1961

\*\* Commissioner, New York State Dept. of Social Welfare



of the social insurances when they fall ill. And these costs keep rising.

We are dismayed, however, that Washington has discovered how little it knows about medical care and we are being swamped with mandated reports which the people in HEW tell us they need to inform the Congress. Along with the lateness of interest is such an irritating item as our being required to report all hospital cases according to the World Health Organization Code rather than according to the AMA Standard classification code, which I think you will find is in use in virtually all our hospitals in the Northeast.

Much is made these days in the literature and in conference sessions of the need to improve the quality of medical care for our welfare recipients. There is never anything very specific as to what is meant by this or as to how it can be accomplished.

Presently people on public assistance receive the kind of care which is available in their communities. And I might add that they receive more of it than if they were paying for it themselves.

How are we expected to proceed to better the quality of care? Shall the welfare administration intercede in the choice of physicians and allow only those physicians of some high rating standard to treat our clients? Shall we choose for them only the highest standard teaching (and highest cost) hospitals when they need care?

Believe me, we in welfare are all for the improvement of medical care and of institutional services. But we do not believe in using our cases as guinea pigs or as a separate group to secure superior care. We believe that there is much that you in public health can do to stimulate physicians to give better care to the whole community. There is a great deal to be done in the way of organizing a smooth flow of medical institutional services where again you can serve us. Such efforts would in the end benefit the whole community including our recipients.

One proposal commonly advanced is that all applicants for assistance and their family members be given physical examinations upon their entrance to the assistance rolls. Sometimes it is even proposed that the examination be made mandatory as a condition of eligibility for assistance. What then might happen, one wonders, to an aged person of 75 who refused to have cataracts removed? Aside from the expense involved, which would be enormous, we in welfare are completely opposed to this separate treatment for our people. Unless and until the population as a whole is required to have periodic health examinations, we shall resist this extra provision for those in our charge.

There is another phrase which keeps going around to the effect that presently we are fracturing medical care. This is a vague phrase but it seems to mean that by having some medical care given through health facilities, some through vocational rehabilitation, some through Workmen's Compensation, some through public welfare, some through education and perhaps through

other sources, we are fracturing it. This argument is used by those who say that public health should take over the public welfare medical programs. My brief answer to this proposition is that I had rather fracture medical care than fracture people. When I consider the complications which would ensue from having two public agencies rendering partial services to welfare recipients and the endless communications and record-keeping which would be necessary, I conclude that it just would not work to anyone's satisfaction.

Further, in states where the welfare programs are locally operated, there are frequently no organized local health services which could authorize expenditures for medical care.

Rehabilitation comes close to being oversold as an item in relation to welfare programs. At least in our State, there are many who proclaim that we could close out our relief rolls if we did more rehabilitation. They seem to ignore the fact that the largest numbers on our rolls are old people and children.

However, we do have people who should be given physical restoration. (I shall not take time to discuss here the problem of conditioning people for better social functioning, which is equally acute and more perplexing.)

Physical restoration is of course dramatic and satisfying and also costly. We all refer those with vocational potential to our Vocational Rehabilitation services. But for those not accepted or not acceptable we are on our own. It is here that we need the partnership of our public health forces.

First we need to have a broad understanding among the practicing physicians as to the latest methods and potentials for rehabilitation. Then we need an evaluation center which can give us reasonable assurance as to outcome and some estimate of the costs involved. And then there must be the facilities where the needed services can be obtained. Our State Health Department has been helpful to us and is extending its services in these areas.

Meantime we in welfare must do some sharp reckoning to decide whether the likely objectives will be worth the costs involved in both economic and social terms. We know that not every rehabilitatee will be able to pick up his bed and walk but we must win most of the time.

There is also an awkward factor in that our services and programs are for those who have continuing eligibility or economic need. Contrary to public belief, there is a large turnover in our caseloads due to the changing economic status of our recipients. Prolonged rehabilitation plans cannot be entered into for those in families where there is short-term eligibility. Revision of federal and most state laws would be necessary to make such long-term services possible.

Each state here represented and, indeed, every state in the nation has had to consider the Kerr-Mills bill and what it will do about the new program of medical

assistance for the aged. During the planning and consultation leading to the adoption of our program in New York State, it became perfectly clear that this is an important step and one which will continue to be needed even if the Congress finally adopts a program of medical care under Social Security. For one thing, there will be need to cover the people who for one reason or another have no coverage under Social Security. For another, in the foreseeable future there will be limits to the services provided under any Social Security Act. For instance, the present Social Security proposal will not take care of people who need to live in nursing homes or infirmaries on a full-year-round basis. Medical Assistance for the Aged would seem scheduled to be eventually in the same supplementary relationship to Social Security medical plans as Old Age Assistance presently is to Old Age Insurance.

An old issue which must be faced again in Medical Assistance for the Aged is the kind and extent of the means test for eligibility which is to be established. My colleagues in public health, mental health and education are always a little scornful of welfare because we have these means tests. I would point out that in its crippled children and other services public health has means tests. By and large, means tests are applied for admission to mental hospitals, and scholarships for education are almost always based on means tests.

Be that as it may, there is no time to discuss all the elements of such tests but I would like to particularize on the issue of relatives' responsibility. This is included in our law. At the same time there are increasing utterances from the Federal Department advocating the abolition of this responsibility. Responsible groups in our State, including some in public welfare, are also advocating abolition.

I know the arguments for abolition — that the inquiry is cumbersome for the workers and embarrassing for the families — that the enforcement destroys family ties — that the responsible relatives and their families are deprived by requiring them to support — and that no great amount of money is collected anyway.

As an administrator of welfare ever conscious of the criticisms of the high costs of our programs, I wonder if we can count on public endorsement of the elimination of compulsory support. If compulsion is eliminated what will happen? Will those who have assumed these responsibilities voluntarily abandon them and turn to our programs for help? The big "if" in my mind is this — can we count on full voluntary support to the extent now practiced, once compulsion is eliminated?

We in public welfare are much more free than are you in public health to advocate the real solution to this dilemma, namely, to place medical care in the Social Security system. I am particularly fortunate in that our Governor Rockefeller too sees this as the ultimate solution to the problem.

And now a few thoughts on the whipping boy of

the medical care world today, namely, the nursing home. In any group like this the speaker can always get a hand by proclaiming that we must improve the care in these facilities.

I would not disagree with this objective but having been in the business for years of standard-setting and inspection of such facilities there are certain cautions which need to be noted.

As the standards are raised and increasingly enforced, the costs inevitably go up. I have seen a district set its standards so high that the costs were beyond reach for public charges and these were placed in an adjacent district where standards were lower and so were the costs. This shows the need for equitable, reasonable, enforceable standards on a statewide basis to prevent the placement of people in substandard facilities. Local regulation fails in this regard. I have seen persistent attempts thru legislation to have more of our old people placed in mental hospitals to eliminate the higher cost to the relatives of care in nursing homes.

As the nursing homes approach desirable standards, there will devolve upon the regulatory powers the need to make certain that those needing nursing care are in approved facilities. Old hotels and large houses are being opened all over the country for the care of aged persons where considerably less than the desired medical care is available. We will need to be alert to this development and seek the ways and means of being sure that the people in such facilities are being adequately cared for.

As those of you know who have worked in this area, it is easy to formulate ideal standards in Committee sessions. But the road to enforcement of equitable basic standards is a long hard process. It is not easy to decide to order withdrawal of patients from facilities when it means the ruin of a livelihood for the proprietor. The Courts protect proprietors from "arbitrary or capricious" deprivation of property rights. It is not easy to take patients away who have formed attachment for the facility and its personnel. It is sometimes not easy to combat the friends of the facility and the people of the community involved who resent the authoritarian methods of what they call bureaucracy. In this, as in many other areas, people hold to an ideal for others but wish exemption when they are directly involved.

A very useful and hopeful development in this field in our State has been the conversion of many of our county homes — the old poor farms — to public home infirmaries. These facilities are rated for the purpose of Hill-Burton fund allocations as nursing homes, with the stipulation that they must have hospital connections. Some of our voluntary hospitals too have been adding nursing home facilities to their plants. These increases in adequate facilities have had their influence in enabling us to raise the standards in the proprietary nursing homes for they must compete for business.

*Continued on Page 260*



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Sixth District, RICHARD C. WADSWORTH, M.D.

Bangor

### *Maine Hospital Association*

FREDERICK T. HILL, M.D., Waterville

PEARL R. FISHER, R.N., Waterville

## Across The Desk

### Report On Actions Of The House Of Delegates, American Medical Association 110th Annual Meeting, June 25-30, 1961, New York City

Osteopathy, medical discipline, communications, surgical assistants, drug legislation, general practice residencies, relations with allied health professions and services, and poliomyelitis vaccine were among the major subjects covered by 115 resolutions and 28 reports acted upon by the House of Delegates at the American Medical Association's 110th Annual Meeting held June 25-30 in New York City.

Dr. George M. Fister of Ogden, Utah, member of the AMA Board of Trustees and previously a member of the House of Delegates, was named president-elect of the Association. Dr. Fister will become president at the June, 1962, annual meeting in Chicago, succeeding Dr. Leonard W. Larson of Bismarck, North Dakota, who assumed office at the Tuesday night inaugural ceremony in New York.

The AMA 1961 Distinguished Service Award was voted to Dr. Walter H. Judd of Minneapolis, physician and member of Congress, for his contributions as a medical missionary, humanitarian and statesman devoted to world peace.

Total registration through Thursday, with half a day of the meeting still remaining, had reached 56,315, including 22,681 physicians.

#### OSTEOPATHY

In considering a report of the Judicial Council and three resolutions on the subject of osteopathy, the House of Delegates agreed with the intent of the report and

resolutions, but instead adopted the following statement of AMA policy:

"1. There can never be an ethical relationship between a doctor of medicine and a cultist, that is, one who does not practice a system of healing founded on a scientific basis.

"2. There can never be a majority party and a minority party in any science. There cannot be two distinct sciences of medicine or two different, yet equally valid systems of medical practice.

"3. Recognition should be given to the transition presently occurring in osteopathy, which is evidence of an attempt by a significant number of those practicing osteopathic medicine to give their patients scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

"4. It is appropriate for the American Medical Association to *reappraise its application of policy* regarding relationships with doctors of osteopathy, in view of the transition of osteopathy into osteopathic medicine, in view of the fact that the colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature and the reliance of osteopaths on and use of medical literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

"5. Policy should now be applied individually at state level according to the facts as they exist. Heretofore, this policy has been applied collectively at na-

tional level. The test now should be: Does the individual doctor of osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional associations with him are unethical. If he bases his practice on the same scientific principles as those adhered to by members of the American Medical Association, voluntary professional relationships with him should not be deemed unethical."

#### MEDICAL DISCIPLINE

In a major move designed to strengthen the profession's disciplinary mechanisms, the House approved the conclusions and recommendations of the Medical Disciplinary Committee, with only three word changes. The House discharged the committee with thanks and commendation and directed that its functions be assumed as a continuing activity of the Judicial Council.

One recommendation suggests that "The bylaws of the American Medical Association be changed to confer original jurisdiction on the Association to suspend or revoke the AMA membership of a physician guilty of a violation of the Principles of Medical Ethics or the ethical policy of the American Medical Association regardless of whether action has been taken against him at local level."

Another "encourages and urges that each state association report annually to the American Medical Association all major disciplinary actions taken within its jurisdiction during the preceding calendar year."

The report urged state and county medical societies to utilize grievance committees as "grand juries" to initiate action against an offender so as to obviate the necessity of making an individual member of a medical society complain against a fellow member.

The House suggested that each medical school develop and present a required course in ethics and socio-economic principles, and that each state board of medical examiners include questions on ethics and proper socio-economic practices in all examinations for license.

The report concluded with a recommendation that "American medicine at the national, state and local level maintain an active, aggressive and continuing interest in medical disciplinary matters so that, by a demonstration of good faith, medicine will be permitted to continue to discipline its own members when necessary."

#### COMMUNICATIONS

Acting upon four resolutions related to the Association's public relations program, the House adopted a substitute resolution directing the Speaker of the House of Delegates to name seven elected members of the House as a special committee "to study and continually advise the Board of Trustees on the broad planning and coordination of all phases of communications of the American Medical Association, so that the public

and the members of the medical profession are properly and adequately advised of the policies and concern of the medical profession with respect to all phases and aspects of medical care for all people."

The House agreed with a reference committee opinion that "we have a very adequate Division within the A.M.A. capable of implementing any program of communications." The approved committee report also said that "the Communications Division of the A.M.A. needs the active support and cooperation of the House and of all members of the Association."

#### SURGICAL ASSISTANTS

In considering a Board report and two resolutions on the subject of surgical assistant's fees, the House approved the following five basic principles developed by the Judicial Council and the Council on Medical Service:

"1. Each member of the A.M.A. is expected to observe the Principles of Medical Ethics in every aspect of his professional practice.

"2. Each doctor engaged in the care of the patient is entitled to compensation commensurate with the value of the services he has personally rendered.

"3. No doctor should bill or be paid for a service which he does not perform; mere referral does not constitute a professional service for which a professional charge should be made or for which a fee may be ethically paid or received.

"4. It is ethically permissible for a surgeon to employ other physicians to assist him in the performance of a surgical procedure and to pay a reasonable amount for such assistance.

"This principle applies whether or not an assisting physician is the referring doctor and whether he is on a per-case or full-time basis. The controlling factor is the status of the assisting physician. If the practice is a subterfuge to split fees or to divide an insurance benefit, or if the physician is not actually employed and used as a bona fide assistant, then the practice is contrary to ethical principles.

"5. Under all other circumstances where services are rendered by more than one physician, each physician should submit his own bill to the patient and be compensated separately."

#### EFFICACY OF DRUGS

The House strongly endorsed a Board report which pointed out the problems that would result from amending the Food, Drug and Cosmetic Act to authorize the Food and Drug Administration to determine the efficacy, as well as the safety, of a prescription drug prior to the approval of a new drug application. The A.M.A. will oppose such legislation before the Kefauver Committee, the report pointed out, on the basis that "a decision with respect to the effectiveness of drugs is dependent upon extended research, experimentation and usage." The House agreed that vesting such authority in the



Food and Drug Administration would operate to limit research, the marketing of drugs and the exercise of discretion by the medical profession. "The marketing of a relatively useless drug is infinitely less serious than would be the arbitrary exclusion from the market of a drug that might have been life saving for many persons," the House declared.

#### GENERAL PRACTICE RESIDENCIES

Eight resolutions were introduced on the subject of creating new two-year, residency training programs in general practice. The House agreed that there appears to be a need for such programs for those individuals who desire more experience in obstetrics and surgery than may be available in the currently existing Family Practice Program. It approved a substitute resolution directing the Council on Medical Education and Hospitals to consider for approval other two-year programs in general practice which incorporate experience in obstetrics and surgery. The Council will review these programs on the basis of their individual merits and conduct a long-range evaluation of the new programs as well as the previously established Family Practice Programs.

#### RELATIONS WITH OTHER HEALTH PROFESSIONS AND SERVICES

The House considered a Board report and twelve resolutions dealing with various aspects of medicine's relationships with allied health professions and services, including optometry. The Board report recommended the creation of a new A.M.A. Council to handle all the problems involved. The House, however, accepted a reference committee suggestion for establishment of a new Commission to Co-ordinate the Relationships of Medicine with Allied Health Professions and Services. The Commission will be composed of seven members appointed by the Speaker of the House. Subcommittees, composed of from three to five members selected by the Commission from lists of names submitted by the scientific sections, will consider problems in specific areas. The Commission will correlate and catalogue the reports of the subcommittees and will act as liaison agent between the subcommittees and those A.M.A. Councils where there may be overlapping interests.

#### POLIO VACCINE

The House approved a report by the Council on Drugs on the present status of poliomyelitis vaccination in the United States and urged that it be made available to all physicians through the most effective communications media. The report clearly outlines procedures recommended for implementation of mass vaccination with the new oral vaccine when it becomes available. The House complimented the Council on its "clear and succinct statement on the initiation of the new campaign which will be needed to promote the

new vaccine." The House agreed that the report provides the practicing physician with a reliable series of answers to the many questions which will arise during the change-over from Salk vaccine to oral vaccine. The report emphasizes, however, that "physicians should encourage, support and extend the use of Salk vaccine on the widest possible scale at least until the oral poliovirus vaccines currently under development and clinical trial become available."

#### MISCELLANEOUS ACTIONS

In dealing with resolutions and reports on a wide variety of other subjects, the House also:

Approved the *"Guides to Physician Relationships with Medical Care Plans,"* submitted by the Council on Medical Service, with these two changes: deletion of item 5 under "Responsibilities of the Medical Society," which said "To recognize that properly qualified physicians employed by, or otherwise serving, medical care plans should not be denied professional rights and privileges because of their service to such plans," and addition of a new item 1 under "Responsibilities of the Medical Care Plan," which reads: "To provide the beneficiary of the plan with free choice of qualified physicians";

Reaffirmed its support of the *Kerr-Mills* program for the needy and near-needy aged and its opposition to any legislation of the *King-Anderson* type, declaring that the medical profession "will not be a willing party to implementing any system which we believe to be detrimental to the public welfare";

Approved a markedly expanded *drug information program* submitted by the Board of Trustees and the Council on Drugs;

Adopted the final report of the Special Study Committee of the Council on Medical Education and Hospitals and recommended that copies be sent to all medical school deans in the United States;

Decided to hold the 1963 *Clinical Meeting* in Portland, Oregon, instead of Las Vegas, Nevada, as recommended by the Board;

Approved a plan by the new A.M.A. Department of International Health to cooperate in the recruitment of volunteer physicians for emergency medical service in *foreign mission fields*;

Agrees to an increase of \$20 in the annual A.M.A. *membership dues* to be implemented over a period of two years: \$10 on January 1, 1962, and \$10 additional on January 1, 1963;

Discontinued the Association's *General Practitioner of the Year* award;

Opposed legislative and administrative mandates which would compel physicians to prescribe drugs, or require pharmaceuticals to be sold, by *generic names* only;

Reaffirmed the Association's opposition to compulsory inclusion of physicians under the *Social Security* system;

Urged immediate legislation that will provide strong

economic motivation for the construction and maintenance of *fallout shelters*;

Disapproved two resolutions which would have discontinued the scientific activities at the *Clinical Meeting*;

Urged *immunization campaigns* against both tetanus and influenza, and

Asked state and county medical societies to give full support to the *First National Congress on Medical Quackery* to be jointly sponsored next October 6-7 in Washington, D. C., by the A.M.A. and the Food and Drug Administration.

#### OPENING SESSION

At the opening session on June 26, Dr. E. Vincent Askey of Los Angeles, retiring A.M.A. president, challenged physicians and medical organizations to re-examine their own efforts to strengthen and improve medicine, and he warned against defeatism and failure to accept personal responsibility for answering criticisms. Dr. Larson, then president-elect, called on the profession to strengthen methods of self-discipline in both the state and county societies, adding that physicians must be concerned with improper or incompetent practice and unethical actions of all kinds. The 1961 Goldberger Award in Clinical Nutrition was presented to Dr. Frederick J. Stare, chairman of the Department of Nutrition at Harvard Medical School.

#### INAUGURAL CEREMONY

Dr. Larson, in his address on June 27, said that the really good doctor, guided by the professional spirit, will always remember that medicine exists for just one purpose — to serve humanity. When the essence of that spirit is diluted or destroyed, either in an individual physician or in a nation, he added, medicine ceases to be a profession in the highest sense of the word. Dr. Larson also presented the Distinguished Service Award medal to Rep. Judd. Entertainment highlight of the inaugural program was a concert by the Montgomery County Medical Society Glee Club of Dayton, Ohio.

#### ELECTION OF OFFICERS

In addition to Dr. Fister, the new president-elect, the following officers were named at the Thursday session:

Dr. Eustace A. Allen of Atlanta, Ga., vice president; Dr. Norman A. Welch of Boston, re-elected speaker of the House, and Dr. Milford O. Rouse of Dallas, Tex., re-elected vice speaker.

Elected to the Board of Trustees were Dr. Wesley W. Hall of Reno, Nev., to succeed Dr. Fister; Dr. Homer L. Pearson, Jr., of Miami, Fla., to replace Dr. Julian P. Price of Florence, S. C., and Dr. Charles L. Hudson of Cleveland, Ohio, to fill out the term of the late Dr.

Cleon A. Nafe of Indianapolis. The Board named the following officers: chairman, Dr. Hugh Hussey of Washington, D. C., vice chairman, Dr. Percy Hopkins of Chicago, and secretary, Dr. James Z. Appel of Lancaster, Pa.

Named to the Judicial Council were Dr. Robertson Ward of San Francisco, to succeed himself, and Dr. Elmer G. Shelley of North East, Pa., to replace Dr. Pearson.

Re-elected to the Council on Constitution and By-laws was Dr. Walter E. Vest of Huntington, W. Va.

New Members of the Council on Medical Service are Dr. Charles Ashworth of Providence, R. I., succeeding Dr. Carlton Wertz of Buffalo, N. Y., and Dr. Burtis E. Montgomery of Harrisburg, Ill., to succeed Dr. Charles Hudson of Cleveland.

For the Council on Medical Education and Hospitals, Dr. Dwight L. Wilbur of San Francisco was elected to succeed Dr. John W. Cline of the same city, and Dr. Kenneth C. Sawyer of Denver, Colo., was named to succeed Dr. Guy A. Caldwell of New Orleans.

F. J. L. BLASINGAME, M.D.

Executive Vice President

American Medical Association

#### U. S. National Health Survey Examinations in York County, Maine

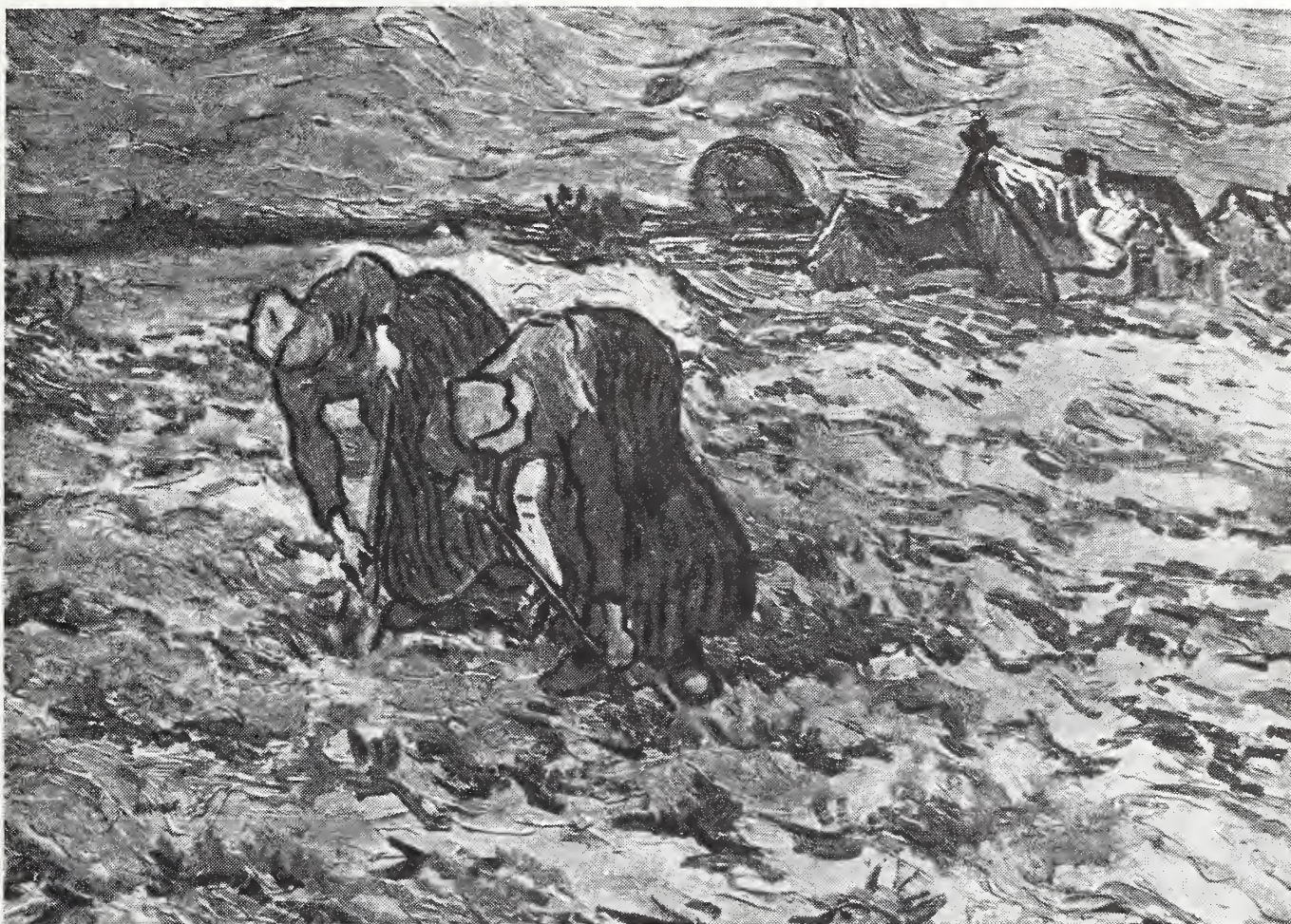
A special examining team will come to York County in late August for the Public Health Service's Health Examination Survey. The examining physicians will be Dr. Sumner C. Kraft and Dr. Marvin Forland, both residents in medicine at the University of Chicago Clinics. Dr. Richard Ribisl of Springdale, Pennsylvania will be the examining dentist. The two nurses are Miss Marian M. Shapiro of Washington, D. C. and Mrs. Jean McLachlen of San Francisco. Miss Christine Sewall of Denver, Colorado and Philip Howley of Rochester, New York are the X-ray laboratory technicians. Two medical history interviewers — Miss Regula Baltensperger and Miss Eleanor O'Malley of Washington, D. C. complete the team.

The physicians are on temporary assignment with the Survey; the other team members are regularly on the PHS staff.

One of the Survey's two mobile examination centers will be brought to Maine and set up on the grounds of the Webber Hospital in Biddeford. The examinations will be performed on about 150 adults chosen by a probability sampling technique from the whole population of the County. The dates of examination of the sample persons will be August 28 through September 18. Visits to the households from which the sample persons will be drawn will begin about a week before the examinations start.



The Weeders, Van Gogh, Bernard Koehler Collection, Berlin



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SEARLE



# From the Secretary's Notebook

## The 108th Annual Session

### Registration

The Registration for the 108th annual session of the Maine Medical Association, held in June, 1961, the largest to date, totaled 738, which included 310 members of the M.M.A. All sessions were well attended and numerous comments would indicate that those involved in arranging the various phases of the program should feel well repaid for their efforts.

### House of Delegates

The two regular meetings of the House of Delegates were held on Sunday, June 18; the first at 10:00 A.M. and the second at 3:30 P.M. And, a special meeting of the House was held on Monday P.M., June 19 immediately following the General Assembly.

James A. MacDougall, M.D. of Rumford, Acting President-elect, presided at the meetings of the House on Sunday. Linus J. Stitham, M.D. of Dover-Foxcroft was Parliamentarian.

The stenographic record of these meetings is somewhat voluminous and is on file in the Association's offices. Portions of it will, however, be published in the Journal and reprints of published material sent to all of the county secretaries. The complete report is available to any member who wishes to visit the official headquarters in Brunswick.

Remarks by the President, Carl E. Richards, M.D. of Sanford, were first on the Order of Business and these will be published in September.

The report of the Secretary-Treasurer dealt mostly with the changes necessitated by the change in the fiscal year, and the loss in advertising which is not a local problem but which effects all medical journals throughout the country.

The Executive Director called attention to the fact that each year the work in the office has increased dramatically, referred to the advertising situation, stated that Blue Shield in Maine paid to physicians almost 2¼ million dollars in the last fiscal year, an increase of 11% over the previous year, reported briefly relative to the 100th Legislative Session, reviewed briefly the malpractice situation in Maine and the problems of the aging.

The next item on the Order of Business was the Budget for the fiscal year 1962 which was drawn up by the Budget Committee, (Drs. Ralph C. Stuart and Thomas A. Martin) and presented at the Interim Meeting of the House of Delegates. A motion by Dr. Charles R. Glassmire that the proposed budget be ac-

cepted was seconded by several of the members present and was carried.

Estimated income from January 1, 1962 to December 31, 1962 from State Dues, Journal Advertising, Subscriptions, Exhibit Space Rentals and Miscellaneous is \$69,110.00.

Approved expenditures total \$69,560.00 which are itemized below:

### Association

#### Office

##### Salaries:

Executive Director	\$10,000.00
Secretary-Treasurer	3,000.00
Stenographers	6,240.00
Travel — Exec. Dir. & Sec.-Treas.	1,500.00
Supplies, telephone, rent, payroll, taxes, etc.	5,000.00
Equipment	500.00

#### General:

President's Expenses	1,000.00
Annual Session & Int. Meet. House of Delegates	3,500.00

#### Committees:

Medical Advisory (Legal Counsel)	1,000.00
National Education & Public Relations	300.00
Standing & Special	1,400.00

#### Delegates:

American Medical Ass'n.	1,200.00
New England & New Brunswick	400.00
New England Council Dues	150.00
Fall Clinical Session	500.00
Annual Roster	300.00
Woman's Auxiliary	400.00

### Journal:

Printing & Plates	20,000.00
Travel	250.00

#### Office:

##### Salaries:

Editor	2,500.00
Secretary-Treasurer	3,000.00
Stenographer	3,120.00
Supplies, postage, rent, etc.	1,800.00
Insurance	100.00
Retirement Fund	2,400.00

#### Total

\$69,560.00

### Amendment to Constitution and By-Laws

Dr. Paul H. Pfeiffer of Waterville, Chairman of the Committee on Recruitment, Aid and Placement, proposed the following amendment to the By-Laws which was approved:



## CHAPTER VII-A

### MEDICAL EDUCATION FOUNDATION

The Association may receive, hold, and disburse, strictly in trust however, for the purpose hereinafter provided, contributions to a fund to be known as the Maine Medical Education Foundation, said fund with all additions and accretions thereto to be devoted to the granting of loans to promising students of Medicine, for the purpose of Medical education.

Subject to the supervision and approval of the Council, the Committee on Recruitment, Aid and Placement shall administer said fund and make rules and regulations therefore not inconsistent with this By-Law.

Said fund, being held in trust, cannot and shall not be used for the general purposes of the Trustee, Maine Medical Association, or for any purpose except as in this By-Law above provided. In event of the dissolution of the Trustee Association, any remaining assets held by the Maine Medical Education Foundation, subject to the jurisdiction of the Court, will be distributed to organizations which have been granted exemption under Section 501 (c) (3) of the 1954 Internal Revenue Code.

Said funds and all accretions thereto from interest received or otherwise are and shall be received strictly in trust for the purposes herein provided, and forever held and administered by the Association as Trustee entirely separate from its general and any other funds, and shall not be available to satisfy the debts of the Trustee Association. (amended 6/18/61)

(This proposed amendment was presented at the Interim Meeting and was published in the May, 1961 issue of the Journal).

Dr. Pfeiffer further proposed to the House of Delegates that the Special Assessment of \$25.00 for the Maine Medical Education Foundation be continued indefinitely. Following some discussion, Dr. Clyde I. Swett of Island Falls moved the adoption of the \$25.00 assessment for this year. This motion was seconded by Dr. Paul A. Fichtner of Rangeley and was carried unanimously.

## Special Committee Report

### Amy W. Pinkham Fund Committee

Three grants were made from Amy W. Pinkham Funds during the fiscal year April 1, 1960 to March 31, 1961. These grants were as follows:

Van Buren School	Apr. '60	Freezer Unit	\$250.00
Linneus School	Dec. '60	Deep-Well Sink	240.45
Scholarship	Jan. '61	Course in Advanced Nutrition	60.00

The two capital equipment grants add 550 students served daily (100 Linneus - 450 Van Buren) to the 4,165 previously helped through this program. The hot lunch program in both of these schools was seriously in need of these improvements. The scholarship granted to a Cumberland County Public Health Nurse to enable her to take an advanced course in nutrition at Boston University, will help this nurse in her own work as well as to help other nurses in the area to give guidance to those in need of help.

This program has been operative for ten years and it has been about six years since it has undergone careful re-evaluation. Plans are currently being formulated to carry out a new evaluation study early in this new fiscal year.

The report of the financial operation of the Pinkham Fund for the fiscal year reported (April 1, 1960 — March 31, 1961) is as follows:

Cash in checking account - April 1, 1960 (First Portland National Bank)	\$1,083.04
Interest received during year	525.00
(Less custodianship of securities)	26.26    498.74
Total Receipts	\$1,581.78
Funds available for program	\$1,581.78
Expended for projects	550.45
Balance on Hand March 31, 1961	\$1,031.33

This money is held by the Maine Tuberculosis Association, where an accumulative report of the program from the time of its inception is on file.

NORMAN H. NICKERSON, M.D., *Chairman*

## Report Of The 57th Annual Congress On Medical Education

I attended the 57th Annual Congress on Medical Education. The program was devoted to the future of medical practice. It was generally felt that the American public wants a family physician to handle its medical needs and expects to be referred to specialists only when unusually complex or difficult situations arise. The family physician must have adequate training in order to do his job properly and a two-year post-graduate internship was felt to be the minimum. During this time, the major emphasis would be on general medicine, pediatrics, psychiatry, medical gynecology, medical ENT and traumatic emergency surgery. Major surgery was purposely de-emphasized as being beyond the scope of such a program. Anyone wanting to specialize could of course go on from such a program and do so. However, there is a tremendous need for family physicians and medical students should be encouraged to enter this field.

Frequently the highly specialized professors speak disparag-

ingly of the generalists and try to create future physicians in their own image. It is hoped that good programs of this sort can be set up away from the university medical centers in hospitals, where the teaching would be largely in the hands of practicing physicians.

There was an interesting debate on the subject of how much should research programs in the hospitals and medical schools be encouraged; and while it is conceded that progress in medicine requires research, it should not be allowed to assume such importance as to jeopardize the teaching programs. Research must be selective, original and well done. Research grants may presumably outstrip the number of qualified people and result in an accumulation of shoddy, repetitious work.

PAUL H. PFEIFFER, M.D., *Chairman*  
Committee on Recruitment, Aid and Placement

# News, Notes, Announcements

## Dr. Elton R. Blaisdell Elected President Of The New England Diabetes Association

Dr. Blaisdell, of Portland, Maine was recently elected President of the New England Diabetes Association. Dr. Blaisdell was also appointed to the Council of the American Diabetes Association at the Annual Meeting which was held in New York in June.

## Dr. Ansell Speaker At The Canadian Dermatological Association

Harvey B. Ansell, M.D. of Portland, Maine attended the Fifteenth Annual Meeting of the Canadian Dermatological Association which met at the Seignior Club in the Province of Quebec in June.

Dr. Ansell presented a paper on "Treatment of Basal Cell Carcinomas by Curettage and Desiccation" and was a participant of the Round Table Discussion on "Cancer of the Skin and Mucous Membrane."

## Mobile Examination Center To Be Used In York County Survey



The mobile examination center which will be brought to York County, Maine, for the Public Health Service's Health Examination Survey. It is shown parked on the grounds of the National Institutes of Health in Bethesda, Maryland.

## M.M.A. FALL CLINICAL SESSION

Augusta, Maine

December 2, 1961

Watch the pages of  
the Journal for details.

## CHARTING A FORWARD COURSE — SOCIAL WELFARE AND REHABILITATIVE IMPLICATIONS

*Continued from Page 252*

To conclude this ramble through medical problems as I see them, I find that I am for:

1. Public Welfare continuing to operate its medical care program for its recipients with assistance from the State and local medical societies and from any public and private agencies which can help us.
2. The physical restoration or rehabilitation of individuals whenever it is economically and socially sound.
3. The improvement of medical care for all the people which will result in better care for our recipients.
4. The implementation by all the states of their versions of the Kerr-Mills bill.
5. The adoption by the Congress of a Social Security medical insurance plan.
6. The general improvement of all residential facilities providing out-of-home medical care to our ailing citizens.

## Book Review

**The Cardiac Arrhythmias — by Brendan Phibbs, M.D.; published by C. V. Mosby Company; 128 pages; price \$7.50.**

The cardiac arrhythmias present a somewhat confusing picture to many practitioners of medicine. Dr. Phibbs' book presents this difficult subject in a very readable manner. The illustrations and the accompanying electrocardiograms are all extremely well done and quite easy to follow. At the back of the book, there is a group of unknown electrocardiograms for interpretation with the correct interpretations following a few pages later.

I would highly recommend this book to any physician who either deals with electrocardiograms or treats patients with cardiac arrhythmias.

CHARLES R. GLASSMIRE, M.D.  
Portland, Maine

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# The Journal of the Maine Medical Association

Volume Fifty-Two

Brunswick, Maine, September, 1961

No. 9

## Orbital Complications Of Purulent Sinusitis

LORING W. PRATT, M.D.\*

The complications of purulent sinusitis are numerous and depend upon the anatomic relations of the sinus to adjacent structures. These factors determine the mechanism of spread of pus from the sinus and account for involvement of the orbital contents. Complications which involve the orbit will be discussed in relation to the sinus from which they originate, the signs which they present, and their most appropriate treatment.

As in other parts of the body, spread of infection is related to vascular channels and to fascial planes. In this region, lymphatic spread is relatively unimportant. The venous system of the orbit is such that drainage may occur by two distinctly different routes. There are rich anastomoses in the lids (Fig. 1) and the anterior part of the orbit and drainage may occur by retrograde flow along the angular vein into the facial vein and the external jugular vein, or it may flow posteriorly through the orbit via the valveless ophthalmic vein into the cavernous sinus, and thence to the internal jugular vein (Fig. 2). Thus this particular area is drained in effect by two venous systems, one of which may be completely interrupted without interfering with the flow of blood by the other route.

In addition, infection is spread to some extent along the fascial planes contained within the orbit. The peri-orbita lines the bony orbit and provides a periosteal membrane which may be elevated from bone by pus discharging from an infected sinus without actual invasion of the orbital contents. This periosteum has a characteristic in common with periosteum of other

cranial areas in that it is fixed to the orbital bones at the normal suture lines, and thus may localize the pus in compartments, in the early stages of an abscess. Later these compartments may rupture and allow general spread through the orbit.

For these anatomical reasons, the appearance of the orbit varies depending on whether or not the perforation connecting the orbit with the sinus is located in an area where it obstructs some particular part of the venous system which drains the orbit.

The characteristics of infections of the orbit consist of various degrees and types of inflammatory change:

1. Inflammatory edema of the lid(s) without edema of the orbit.
2. Edema of the lid(s) with edema of the orbit.
3. Subperiosteal abscess with edema of the orbit and lids.
4. Orbital cellulitis.
5. Septic and aseptic cavernous sinus thrombosis.

### FRONTAL SINUS

Purulent frontal sinusitis produces a typical orbital picture (Plate 1). When infection within the frontal sinus penetrates the bone of the frontal sinus via the haversian system and/or the diploic vessels, and involves the periosteum, the periosteitis chokes the supra-orbital vein and produces edema of the eyebrow, forehead and upper eyelid. Although the entire orbit may be involved with swelling, the edema is at first typically confined to the upper eyelid which becomes thick, red, and painful. Usually only a cellulitis of the upper lid is produced. The frontal sinus may rarely extend far

\*Department of Otolaryngology, Sisters Hospital, Waterville, Maine.

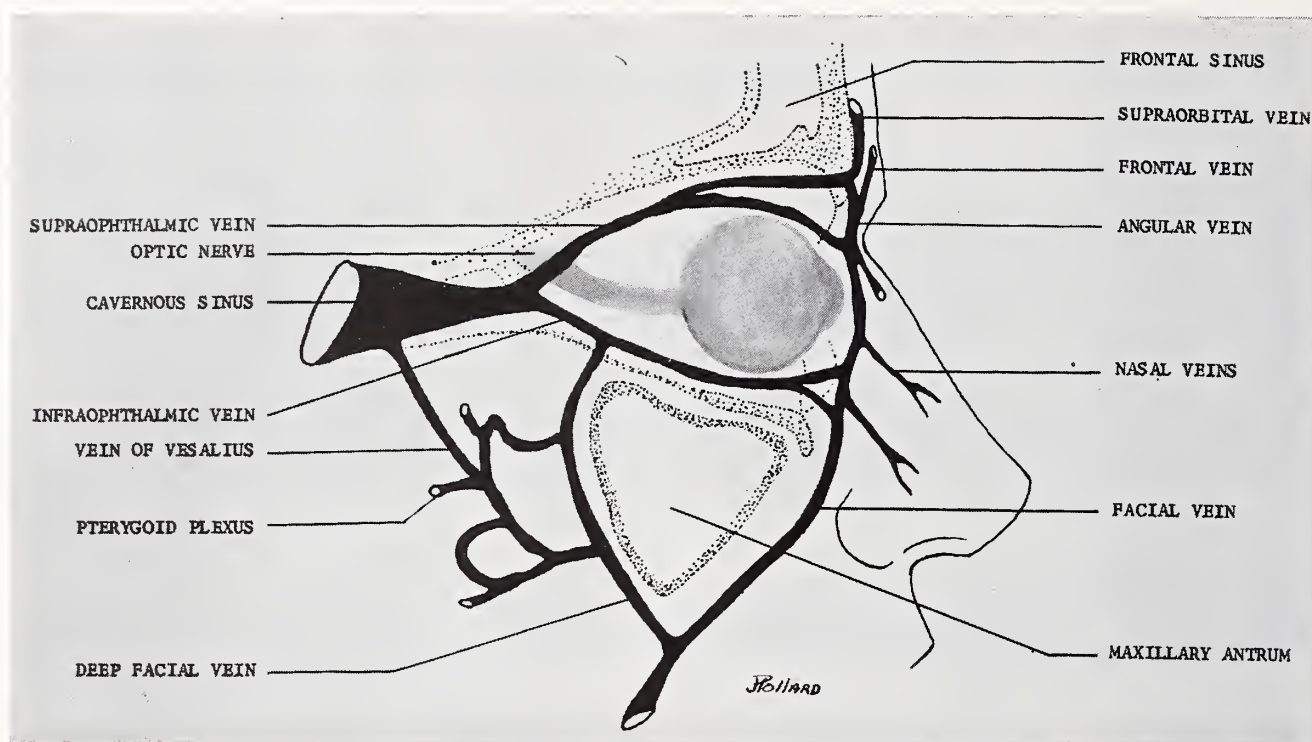


FIG. 1. Schematic lateral view of the venous drainage of the orbit, modified from Wolff.

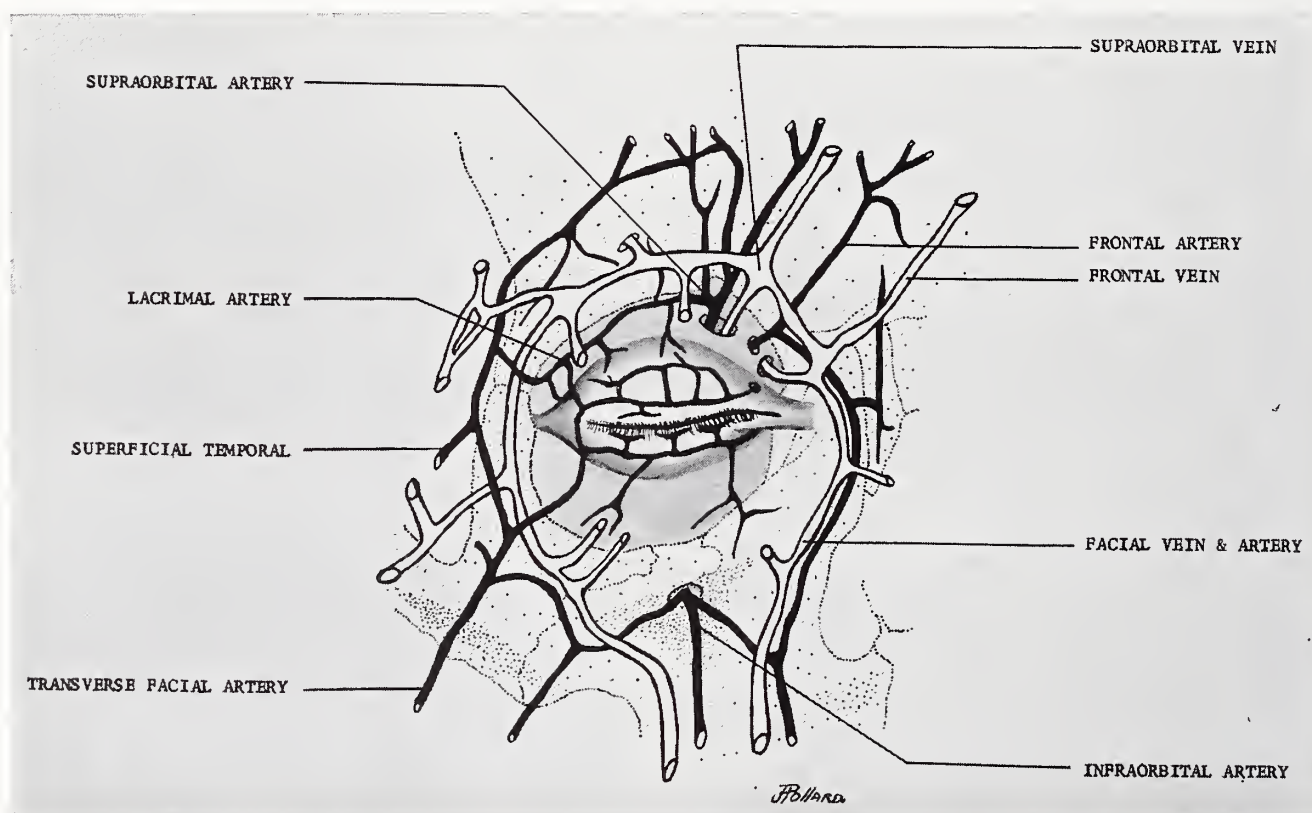


FIG. 2. Diagrammatic representation of the blood supply of the lids, with demonstration of the circumferential drainage of the lids and the rich anastomoses of the venous channels, modified from Wolff.

enough posteriorly to allow perforation into the posterior part of the orbit and thus produce proptosis but this is not the usual picture.

Following untreated or antibiotic-controlled acute infection of a frontal sinus, or the development of an infected mucocoele, there is sometimes left a low-grade chronic inflammatory change within the sinus which produces deformity of the bony outer wall of the sinus

and in turn, deformity of the upper lid (Plate 2). This is seen as a bulge from the region of the sinus into the orbit without apparent infectious component.

#### ETHMOID SINUS

Infections of the ethmoid sinus are quite common and may be very severe. Purulent infection produces a typical pattern (Plate 3). Variation in this pattern is





PLATE 1. A. The eye in acute frontal sinusitis.



PLATE 2. A. The eye in chronic disease of the frontal sinus with mucocoele.

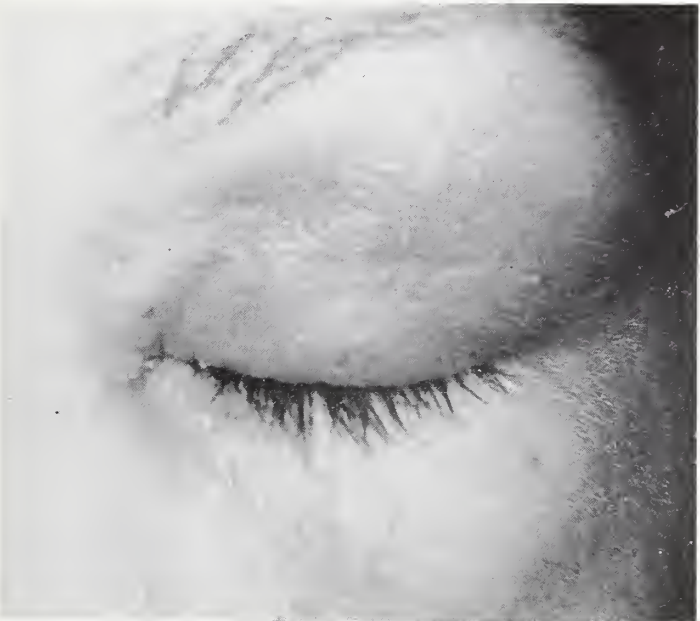


PLATE 1. B. Closeup of the eye showing edema confined to the upper lid.



PLATE 2. B. Closeup of the eye showing deformity of the upper lid and the medial canthus of the eye.

dependent upon age and the part of the sinus involved. With typical anterior ethmoid infection in children, spread to the orbit is often found. This is characterized by edema of both upper and lower eyelids. They become red, edematous, and close the eye. Swelling and edema from perforation of the anterior ethmoid regions with their accompanying periostitis, cellulitis, and obstruction of the infraorbital and supraorbital veins in general produce these characteristic changes in the appearance of the orbit.

Inflammatory venous obstruction, particularly that associated with the presence of a mass in the posterior part of the orbit, produces orbital edema, proptosis of the globe, limitation of motion, chemosis of the conjunctiva, and interference with visual acuity (Plate 4). In addition to external signs of venous obstruction of

the orbital contents, obstruction at the apex of the orbit produces dilatation of the retinal veins. It is of interest, however, that in posterior obstruction of the orbit, lid edema may not be a significant feature because of the opportunity for blood to be drained from the lids via the angular vein.

With infection in the posterior part of the orbit it is sometimes noted that edema of the lower lid is less prominent than that of the upper and this is explained by the improved retrograde collateral circulation of the lower lid via the angular and facial veins, as compared to the venous drainage of the upper lid which is accomplished largely through the already congested orbit.

#### MAXILLARY ANTRUM

Complications of infections of the maxillary antrum





PLATE 3. A. The eye of an infant with acute ethmoiditis.

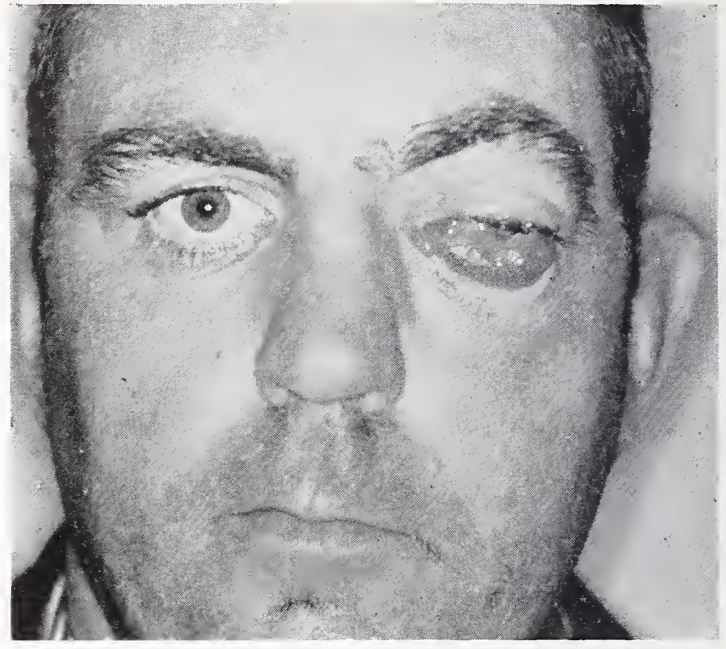


PLATE 4. A. The eye in infection of the posterior orbit, with abscess behind the globe.

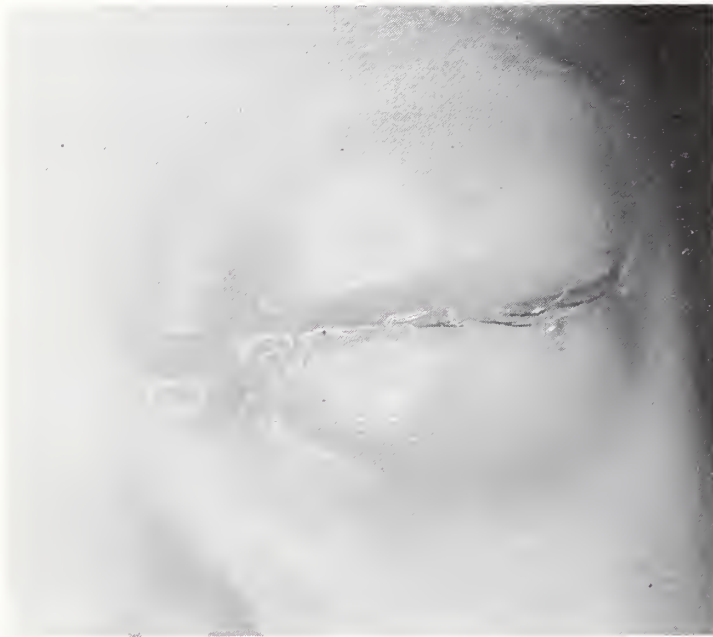


PLATE 3. B. Closeup of the eye showing brawny edema of both upper and lower lids.



PLATE 4. B. Closeup of eye showing chemosis of the bulbar conjunctiva, and proptosis of the globe in the absence of significant lid edema.

are variable. Usually some tenderness appears over the anterior wall of the antrum and zygomatic arch in severe cases. Infections of the antrum seldom rupture into the orbit, nor do they ordinarily rupture outside the confines of the sinus itself or otherwise involve the orbit in the infectious process.

#### SPHENOID SINUS

Clinical infections of the sphenoid sinus fortunately are rare, although it has been reported in autopsy cases that many patients who come to study are found to have pus in their sphenoid sinuses. It is unusual, clinically, to see that condition. Acute infection of the sphenoid sinus produces a dramatic series of compli-

cations, however. Because of the nerves and vessels which traverse or encroach upon the sphenoid sinus, it is possible to produce both ophthalmoplegias and interference with circulation. Blindness, extraocular muscle palsies, venous obstruction to the orbit and interference with venous drainage from the orbit may all occur as the result of sphenoiditis or extension of infection beyond the confines of the sphenoid, especially into the cavernous sinus.

#### TREATMENT

Treatment of the orbital complication is closely related to treatment of the primary disease.

It depends somewhat on the location of the sinus



but is governed by certain general principles. In the first place, the sinus which is draining pus into the orbit must be treated until the discharge of purulent material is terminated. This is accomplished by one of several techniques. Frontal sinus infections should be trephined, the sinus washed out and drained, the patient put on systemic antibiotic, antihistamine, vasoconstrictor, and possibly on one of the proteolytic enzymes. Ethmoiditis should be treated by vasoconstrictor, antibiotic, antihistamine, and rest. Antrum infections should be treated by antibiotic, vasoconstrictor, antihistamine, and irrigation of the maxillary antrum. Sphenoid sinusitis is usually treated by antibiotic, antihistamine, vasoconstrictor and rarely by surgical opening of the anterior wall of the sphenoid sinus.

In addition to treatment of the specific sinus which is involved in the infection, orbital cellulitis per se is well managed by the treatment already described in the form of large doses of systemic antibiotics. There are occasions when a collection of pus is present in the orbit and when exploration of the orbit with drainage of the accumulated pus is an essential part of the treatment.

DISCUSSION

The orbital complications of purulent sinusitis are of particular interest. By inspection of the eye it is often possible to estimate with some accuracy which sinus is involved. Involvement of the upper lid strongly suggests purulent extension from the frontal sinus; involvement of both lids suggests origin in the anterior ethmoid region; involvement of the lower lid by itself suggests infection of other than sinus origin and in rare instances an antrum infection. Involvement of the

eye with fixation of the orbit, proptosis, and chemosis suggests the development of orbital cellulitis or abscess secondary to perforation of the posterior ethmoid region. Proptosis in the absence of orbital infection suggests purulent infection in the sphenoid sinus, or in the posterior ethmoid region. The development of bilateral orbital lesions, and edema of both upper and lower lids associated with edema, chemosis, proptosis and ophthalmoplegia is suggestive of extension into the cavernous sinus with venous obstruction.

CONCLUSION

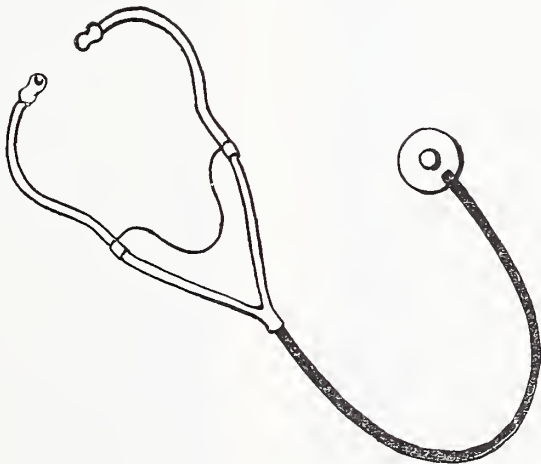
- 1. Most orbital complications of purulent sinusitis occur by direct extension into the orbit from an adjacent sinus.
- 2. The signs of orbital infection are usually dependent upon interference with the venous drainage from the orbit.
- 3. Inspection of the orbit often points with accuracy to the site of origin of the infection.
- 4. Orbital complications usually respond well to chemotherapy and adequate drainage of the offending sinus.

NOTE: The Author is grateful to Jean Ann Pollard for preparing the pen-and-ink sketches used in this article.

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# Entero-Urinary Fistulas

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Spontaneous fistula between the intestinal and urinary tracts is an infrequent complication following ruptured calculi, neoplasms, and more commonly, various types of inflammatory processes originating in the intestines. The most frequent presenting symptoms are those of persistent urinary infection and most particularly, passage of gas in the urine. Actual fecal material in the urine is probably less often noted unless there is a sizable fistula into the bladder. The following two cases illustrate, first, the more common variety — vesicocolonic fistula secondary to diverticulitis and, second, a rather unusual case of ileo-ureteral fistula due to regional ileitis.

Case No. 1: Patient is a 65-year-old male complaining of diarrhea and a mass in the left groin of four months duration. Subsequently, he also experienced burning and frequency of urination. Patient noted passage of gas with urine on several occasions. He was afebrile on admission with a normal white count. An intravenous pyelogram revealed a normal upper urinary tract and presence of two calculi in the bladder. Subsequent barium enema examination demonstrated rapid filling of the bladder and right urinary tract by barium (Fig. 1). The communication between the sigmoid and the bladder was outlined on the lateral projection (Fig. 2). There was also evidence of diverticulitis. The patient underwent surgery and had an uneventful recovery.

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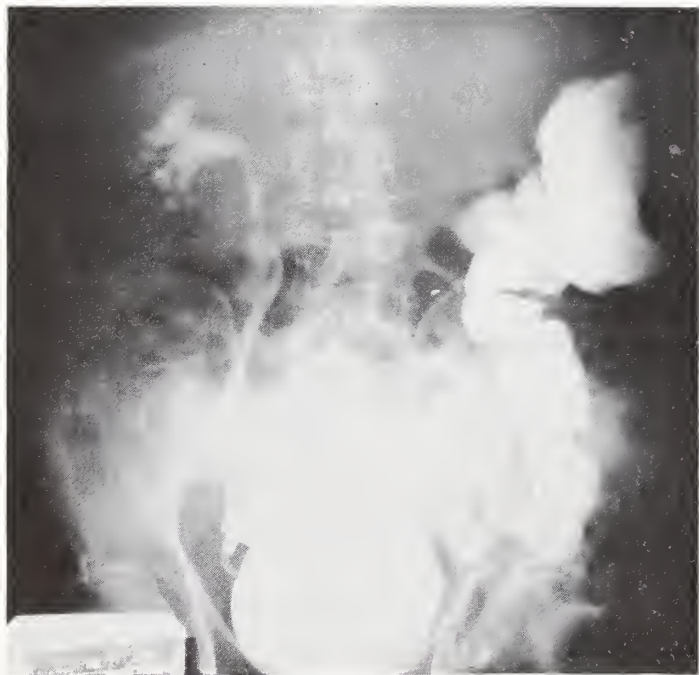


FIG. 1. The bladder and the right urinary tract were filled with barium before opacification of the right colon.

Case No. 2: A thirty-year-old male first admitted January, 1961 with a diagnosis of acute prostatitis and pyelitis refractory to antibiotic treatment. The urine was loaded with WBC and culture grew out staphylococci albus sensitive to chloromycetin. Patient ran an intermittent low grade fever. Physical examination showed tenderness of the prostate and suprapubic region. Pa-



FIG. 2. Lateral view of the recto-sigmoid depicts the bladder outline and the fistula (arrow).



FIG. 3. Spot film of the caecum shows narrowing and irregularity of the terminal ileum.



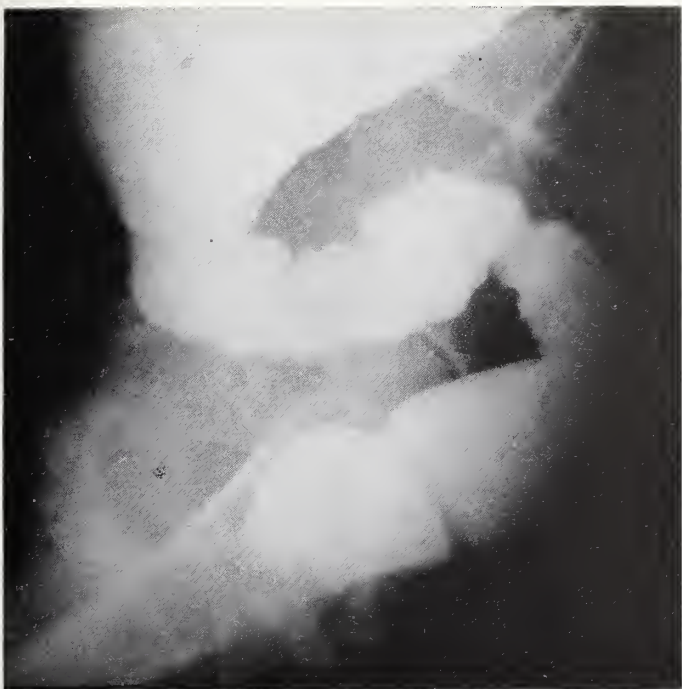


FIG. 4 & 5. Lateral views of the recto-sigmoid before and after evacuation of barium show filling of the bladder following evacuation (right). The narrowed terminal ileum can be seen below the caecum.

tient admitted to having two or three loose bowel movements daily during the past several months. The admission white blood count was 11,400 with 77% polys. The sedimentation rate was 34 m.m. in the first hour. Intravenous pyelogram and cystogram were essentially negative except for minor changes in the left upper calyces. Patient was placed on appropriate antibiotics and discharged in two weeks with moderate improvement.

Readmission occurred three weeks later with patient complaining of increasing lower abdominal pain and passing of gas in urine on one occasion. On rectal examination, an extremely tender mass was found above the prostate. A barium enema study revealed essentially normal colon. The terminal ileum was irregular suggesting regional ileitis (Fig. 3). A lateral view failed to reveal evidence of fistula. However, a second lateral projection taken following evacuation depicted a small amount of barium in the urinary bladder (Fig. 4 and 5). Examination of the urine following this revealed slight turbidity. Barium sulfate crystals were found under microscopic examination. We have found the microscopic examination to be the most sensitive means for detecting the presence of barium in fluid when the density of barium is such that no appreciable difference can be detected by comparing with an equal column of water when exposed to x-rays.

The patient underwent surgery on February 3, 1961. A large loop of inflamed distal and terminal ileum was found adhering to the posterior abdominal and pelvic wall. Upon careful examination, no evidence of fistula to the urinary bladder was found; however, blunt dissection of the ileo loop revealed close proximity to the right ureter. Although no opening in the right ureter was visible to the naked eye it was assumed that a



FIG. 6. Small intestinal study postoperatively reveals absence of bowel loops in mid-abdomen, indicating an intra-abdominal mass.

fistulous tract must have been connecting the ileum to the right ureter. An ileo transverse colostomy was performed after removing two and one half feet of the small bowel and the right colon. Patient had a febrile postoperative course and a sudden shock on the third postoperative day with drop of hematocrit requiring three units of blood.

Five weeks after surgery, patient developed sudden rise of fever to 102° with leukocytosis and inflamma-

*Continued on Page 271*

# Enterobial Appendicitis

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and HARVEY J. BOURASSA, M.D.\*\*

*Enterobius* (*Oxyuris*) *vermicularis*, the common pinworm, is frequently found in the appendix vermiformis. The incidence of infestation of appendices has been reported as 1.19 percent in Michigan<sup>1</sup> and 11.6 percent in South America<sup>2</sup>. On the other hand, the incidence of intestinal enterobiasis has been reported as high as 60 percent in children of Canada<sup>3</sup>.

From August 30, 1960 to November 15, 1960, a total of 19 appendices were received in the Pathology Department of Sisters Hospital. One of these showed no evidence of inflammation. All of the others gave histologic evidence of inflammation of various degrees. Of the total of 19 appendices received, five (about 26.3%) of them were found to be infested by *Enterobius vermicularis*. Although the number of cases is far

too small for statistical evaluation, the clinical and pathologic findings in these five cases seem to indicate that *Enterobius* was responsible for certain gross and microscopic changes in these appendices and led to surgical intervention.

## MATERIALS AND METHODS

In all cases the appendices were fixed in 10 percent neutral formalin, processed through paraffin, and stained with hematoxylin-eosin. Giemsa, Periodic Acid Schiff, and a Brown and Brenn Gram stain was applied in some cases.

## CLINICAL AND LABORATORY FINDINGS

In Table I is a summary of the more pertinent clinical and laboratory findings in the five cases of enterobial appendicitis. All of the patients were white females

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TABLE I

CLINICAL & LABORATORY FINDINGS IN FIVE CASES OF ENTEROBIAL APPENDICITIS

Case	Age	Sex	Color	Date of Surgery	Highest Pre-op. Temp.	WBC & Differential	Symptoms & Signs
1	12	F	W	8-29-60	99.2°F.	8,600 Segmenters 68 Lymphocytes 31 Eosinophiles 1	Pain in right lower quadrant. Nausea and vomiting for 3 days. Point tenderness and rigidity, right lower quadrant.
2	12	F	W	10-12-60	98.6°F.	12,500 Segmenters 81 Lymphocytes 19	Pain in right lower quadrant 2-3 weeks. Nausea and vomiting. Point tenderness and rigidity of right lower quadrant.
3	12	F	W	10-21-60	98.4°F.	5,800 Segmenters 67 Lymphocytes 33	Pain in right lower quadrant for 18 hours. Nausea. Point tenderness and rebound tenderness.
4	7	F	W	11-11-60	101.4°F.	15,600 Segmenters 66 Band 2 Lymphocytes 27 Monocytes 2 Eosinophiles 3	Pain in right lower quadrant for 6 hours. Point tenderness and rigidity of right lower quadrant.
5	5	F	W	11-14-60	99°F.	12,400 Segmenters 72 Band 2 Lymphocytes 25 Eosinophiles 1	Abdominal pain, nausea and vomiting. Point tenderness and rebound tenderness, right lower quadrant. Rigidity over lower abdomen.



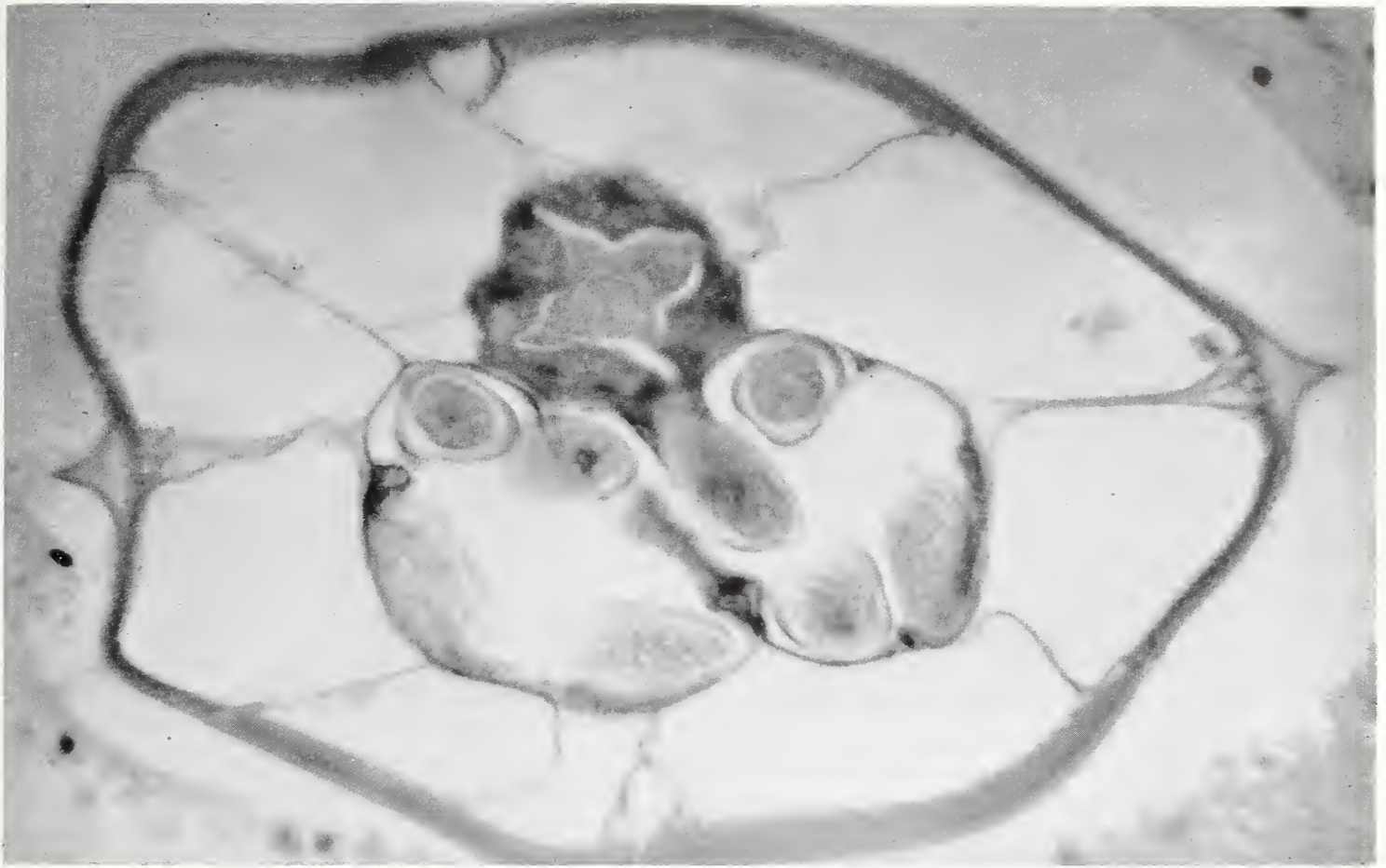


FIG. 1. Cross section of female *Enterobius vermicularis* within lumen of appendix. Ova present in uterus. Hematoxylin-Eosin X 560. (Approx.)

aged 5 to 12 years. In addition to the presenting complaints noted, four of the patients gave a history of having had similar previous attacks of abdominal pain. Geographically, all the patients were from small cities or towns in Maine, two from Pittsfield, and one each from Winslow, Fairfield, and Waterville. Eosinophiles were not prominent in the peripheral blood cell counts. Urinalysis was normal except in one case which showed acetone. Red cell counts were normal in all cases.

#### PATHOLOGIC FEATURES

The gross appearance of these appendices was not always indicative of disease, but certain morphologic changes may lead one to suspect enterobial appendicitis. The serosa was smooth and shiny, but frequently showed patchy areas of purplish discoloration not apparently related to surgical manipulation. In such areas the wall of the appendix was sometimes thinned and the mucosa contained small areas of ulceration. The lumen usually contained a bloody liquid material. In two cases a single pinworm was found. In one case an omental nodule was submitted with the appendix.

Microscopically, the most striking finding was the presence, in most cases, of cross or oblique sections of *Enterobius vermicularis* within the appendiceal lumen (Fig. 1). The parasite was identified by its relative size, bilateral cuticular ridges, and the characteristic asymmetric ova. Ulceration of the mucosa and marked

thinning of the appendiceal wall was present in places seen grossly as patchy hemorrhagic areas. Numerous extravasated erythrocytes were found within the lumen and around sections of the pinworms. In many cross sections, altered blood was found within the gastrointestinal tract of the worms (Fig. 2). Bacterial stains, moreover, revealed bacilli within the gut of the worms as well as within the lumen of the appendix. Gram and Giemsa stains failed to reveal invasion of the appendiceal wall by bacteria.

As might be expected from the gross appearance, the microscopic inflammatory changes in the appendices were mild. While there was reactive hyperplasia and phagocytosis in the lymphoid follicles, this finding and the presence of scattered polymorphonuclear neutrophils in the serosa were discounted as of no special significance or possibly due to surgical manipulation. In the submucosa and subserosa there was, however, a subacute inflammatory infiltrate consisting of numerous lymphocytes and eosinophiles. In one case there were focal granulomas in the submucosa, and these consisted of circumscribed groups of lymphocytes, eosinophiles, and swollen reticulum cells (Fig. 3). The muscularis was relatively free of inflammatory infiltrate and the occasional focal lymphocytic infiltrates could not with certainty be differentiated from lymphatic vessels filled with lymphocytes.

In some cases eosinophiles and lymphocytes were





FIG. 2. Cross section of *Enterobius vermicularis* showing blood in its gut. Hematoxylin-Eosin X 560. (Approx.)

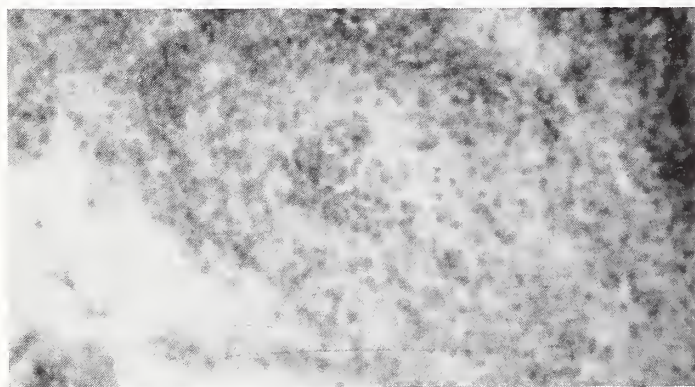


FIG. 3. Focal granuloma in submucosa of appendix. Hematoxylin-Eosin X 150. (Approx.)

present in the periappendiceal adipose tissue. In the case with the omental nodule there was a granuloma in the omental subperitoneal adipose tissue. The granuloma consisted of a central focus of suppuration surrounded by numerous eosinophiles, lymphocytes, reticulum cells, and scattered multinucleated giant cells (Fig. 4). Numerous Charcot-Leyden crystals were present, and in one area a structure resembling a degenerated ovum was found.

#### DISCUSSION

Enterobiasis (Oxyuriasis), world-wide in distribution, is sometimes of significant pathologic and clinical importance<sup>1</sup>. It is particularly found in young children, and the most prominent symptom is that of pruritus ani due to the presence of female worms at the anal orifice during oviposition. The cases presented here indicate that enterobiasis may occasionally lead to major surgery,

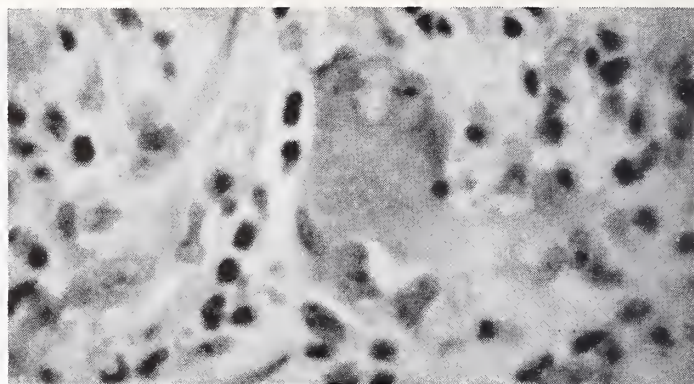


FIG. 4. Granulomatous inflammation in subperitoneal adipose tissue of omentum. Hematoxylin-Eosin X 560. (Approx.)

e.g., appendectomy. Furthermore, the microscopic findings point to a direct relationship between *Enterobius vermicularis* and inflammation of the appendix vermiformis.

It is of interest that the five cases of enterobial appendicitis were all in children and that these were all seen between August and November 1960. Since no other cases in children were seen from November 1960 to June 1961, a seasonal incidence is suggested.

In 1950, Symmers<sup>5</sup> published a detailed report of the occurrence of tissue lesions due to the presence of *Oxyuris vermicularis* and its ova. From his study, he concluded that *Oxyuris* is not a significant cause of appendicitis. He described lesions in peritoneum, mesosalpinx, and ureter due to *Enterobius*. He also reviewed many previously reported lesions of various anatomic locations due to *Enterobius*.

While it is true that there is no convincing evidence that acute suppurative appendicitis is related to enterobial infestation of the appendix, there are a number of reports indicating that *Enterobius* may cause subacute or granulomatous inflammation of the appendix<sup>6,7,8</sup>. Duran-Jorda<sup>8</sup> found no normal appendix parasitized by *Enterobius vermicularis* and has stated that the histologic findings warrant greater consideration of the role played by this parasite in appendicitis. His studies cast some doubt on the simplicity of the life cycle of *Enterobius vermicularis*. On the basis of his studies, he suggested a double migratory phase in which the larvae migrate from the bowel or appendiceal lumen into the wall. He suggested that after passing through a stage of moulting, the mature nematode returns to the lumen.

The findings of altered blood within the gut of the pinworm suggests that this parasite is capable of ingesting blood. The possibility arises, therefore, that the pinworm might contaminate the host's blood stream with the contents of his or her own intestinal tract.

Schenken and Tamisiea<sup>9</sup> reported a case of peritoneal granuloma due to *Enterobius vermicularis* and reviewed twelve previously reported cases in which the lesions were due either to adult worms or ova of *Enterobius*. These peritoneal lesions were similar to the one re-



ported here in Case 1 and to peritoneal lesions due to *Ascaris ova*<sup>10</sup>.

In the five cases reported here, the symptoms and signs led to surgery. It may be that the degree of inflammation would indicate that surgery need not have been performed and that treatment with anti-helminthics might have been preferable. With the presenting symptoms and signs, however, medical treatment for an undiagnosed but possible enterobial infestation would seem somewhat hazardous.

The findings in these cases suggest that early diagnosis and medical treatment of uncomplicated enterobiasis could decrease the incidence of a significant complication and prevent operative intervention. This might be accomplished by education of parents and a parasitological survey of those individuals who are susceptible to enterobial infestation in the spring or summer months.

#### SUMMARY

The clinical and pathologic findings in five cases of enterobial appendicitis are presented. The microscopic findings indicated a subacute or chronic type of inflammation associated with the presence of *Enterobius vermicularis* in the appendiceal lumen. In one case a peritoneal granuloma due to ova of *Enterobius vermicularis* was also present.

The findings indicate that surgical intervention was precipitated by a complication of enterobiasis which might have been prevented by early diagnosis and treatment of the original pinworm infestation. In order to

prevent this and other possible complications, it is suggested that education of parents and a spring-summer parasitological survey might be helpful.

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#### ENTERO-URINARY FISTULAS — *Continued from Page 267*

tion in the upper end of the incision. A small bowel series revealed a mass in the mid-abdomen (Fig. 6). Upon incision and drainage, this was found to be an intraperitoneal hematoma. After this, patient did well without further incidence.

From these and other cases encountered and reported, several findings are noteworthy. Pyelographic and cystographic examinations appear to be less successful in demonstrating the presence of such fistulas especially if they are small. Barium is apparently a better contrast material and fistulous tracts of small size have been successfully demonstrated by barium enema. It is interesting to note that a lateral view of the recto-sigmoid before and after evacuation proves to be the best projection for detecting the presence of barium in the bladder, and, in case of suspicion, microscopic examination of the urine following barium enema can reveal minute quantities of barium sulfate crystals ordinarily invisible to the x-ray.

We wish to acknowledge the cooperation of Drs. Jean Bolduc and Joseph Michaud for presenting their cases.

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# The Plasmacrit Test As A Screening Test For Syphilis

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The plasmacrit (PCT) test is a rapid slide test for syphilis using .025 ml. of unheated plasma and one drop of choline chloride antigen emulsion. The choline chloride acts as a chemical anti-inhibitor. The plasma is obtained from a finger puncture by means of a special microhematocrit. The PCT test was developed by Andujar and Mazurek<sup>1</sup> in 1959. They tested 2813 sera for syphilis and compared the PCT test with other serologic tests: namely, Kline, Kahn, VDRL slide, and Kolmer. The results of their tests showed that the PCT test was 28.7 percent more reactive than the other tests. In only one case was the VDRL reactive and the PCT test nonreactive. More of this serum was not available and could not be tested further.

In January 1961, Balows, McClellan, and Allen<sup>2</sup> published an evaluation of the PCT test in which they tested 2458 sera using the VDRL slide and PCT tests. The PCT test and VDRL slide test showed complete agreement in 99.4% of the total number tested. The remaining 0.6% which did not agree was attributed to the fact that the PCT test was more sensitive. Their investigations confirmed the results of Andujar and Mazurek, and they advocated the PCT test as a rapid screening test for syphilis.

This report deals with a comparison of 500 VDRL and PCT serologic tests for syphilis performed in the Clinical Laboratories of Sisters Hospital. The results are in accord with the previous reports of the reliability and usefulness of the PCT test as a screening test for syphilis.

## MATERIALS AND METHODS

The materials used for the PCT test were those previously recommended. For the first 250 PCT tests, the antigen emulsion was prepared as follows: VDRL slide antigen<sup>3</sup> was centrifuged for 15-30 minutes; the supernatant fluid was discarded and the sediment was resuspended with 10% choline chloride in .85% saline. For the remainder of the PCT tests, the VDRL slide antigen was made up directly with 4.1 ml. of 10% choline chloride in saline. This alternate method eliminated the necessity of centrifugation and resuspension and is presently being used in this Laboratory. Both antigen emulsions were found to be antigenic and stable

for at least one month. Results were also reproducible.

The method used was that of Andujar and Mazurek, using capillary blood. The VDRL slide test<sup>3</sup> procedure was that of the standard method using venous blood. The tests were performed on routine admissions to the hospital. A positive plasma control for the PCT test was used every day to check the stability of the choline chloride antigen emulsion. A positive serum control was also used for the VDRL slide tests.

## OBSERVATIONS

A total of 1000 serologic tests for syphilis was performed on 500 routine admissions to the hospital using the VDRL slide test and the PCT test. In Table I it can be seen that the PCT test and VDRL slide test agreed in 99.2% of the total. In three cases (0.6%) both the VDRL and PCT tests were reactive. All reactive and weakly reactive sera were sent to the Maine State Laboratory for confirmation by the Hinton test. In two cases (0.4%) the PCT tests were reactive while the VDRL tests were only weakly reactive. The results of the Maine State Laboratory in these cases were in agreement with the results of the PCT test. In one case (0.2%) the PCT test was reactive but the VDRL test was nonreactive. The serum submitted to the Maine State Laboratory in this case was reported as reactive. In one case (0.2%) the PCT test was nonreactive, but the VDRL test was weakly reactive. The Hinton test performed on this serum at the Maine State Laboratory was reported as nonreactive.

TABLE I

VDRL	PCT	HINTON*	NUMBER	PERCENT
Nonreactive	Nonreactive	Not Performed	493	98.6
Reactive	Reactive	Reactive	3	.6
Weakly Reactive	Reactive	Reactive	2	.4
Nonreactive	Reactive	Reactive	1	.2
Weakly Reactive	Nonreactive	Nonreactive	1	.2

\*Results reported from the State of Maine Department of Health and Welfare, Bureau of Health, Augusta, Maine.

## DISCUSSION

As can be seen from these results, Table I, the 0.8% of the PCT tests which did not agree with the VDRL

\*Technical Supervisor, Clinical Laboratories, Sisters Hospital, Waterville, Maine.

\*\*Director, Department of Pathology, Sisters Hospital, Waterville, Maine.



slide test did agree 100% with the results of the Hinton test performed at the Maine State Laboratory. These findings are in accord with those of the previous authors and demonstrate the efficacy of the PCT test as a screening test for syphilis.

The PCT test has many practical advantages, as has already been indicated by others. It can be performed on capillary blood using the microhematocrit technique, thus eliminating many venipunctures. Oxalated venous blood can also be used, and a patient who has had a venipuncture would not have to submit to a finger puncture. The PCT test is a reliable and rapid test, taking no longer than eight minutes to perform, and the volume of packed red cells can be obtained in the same time. It could prove most valuable for screening blood donors, as it could be performed before the blood donation has been drawn. The stability and reproducibility of the choline chloride antigen emulsion is time saving and economical.

It must be noted that the PCT test is a screening test and is not to be used for final diagnosis. All reactive and weakly reactive sera should be further investigated by other serologic tests for syphilis. The National Institute of Health has approved the PCT test as an acceptable test for syphilis provided it is approved by State authorities<sup>2</sup>.

## SUMMARY

A comparison has been made between the VDRL slide test and the Andujar-Mazurek plasmacrit (PCT) test for syphilis. The PCT test was performed on capillary blood using .025 ml. of unheated plasma taken from a special microhematocrit. The standard VDRL slide test was performed on venous blood. There was 99.2% agreement between the PCT test and the VDRL slide test. In the remaining 0.8% the PCT test was in 100% agreement with the results reported by the Maine State Laboratory. The findings add support to the conclusion of Andujar and Mazurek that the PCT test is a reliable, rapid screening test for syphilis.

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Mrs. Karter, Sisters Hospital, Waterville, Maine  
Dr. Winslow, Sisters Hospital, Waterville, Maine

## Congress On Medical Quackery To Expose Health Charlatans

Medical quacks and charlatans who prey on the sick and the gullible will be spotlighted at the First National Congress on Medical Quackery Oct. 6-7 at Washington, D. C., the American Medical Association announced recently.

The congress, conceived by the A.M.A.'s Department of Investigation, will be co-sponsored by the federal government's Food and Drug Administration.

Taking part in the program will be officials from federal agencies and from the A.M.A.; representatives of national voluntary organizations involved in, or interested in, the health field, and members of law enforcement agencies.

Organizations participating in the congress will include the American Cancer Society, the Arthritis and Rheumatism Foundation, the National Better Business Bureau. Federal agencies will include the Department of Health, Education and Welfare, Post Office Department and Federal Trade Commission.

# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Russia And U. S. Work Together**

Joint research by U. S. and Russian scientists at the U. S. Public Health Service's National Cancer Institute has revealed a difference in the way two types of leukemic cells conduct their metabolic, or energy-producing, activity. Knowledge of this kind is helpful in designing more effective drugs against leukemia.

Dr. Dean Burk of the Institute's Laboratory of Biochemistry reported this finding at a meeting of the Fifth International Congress of Biochemistry held August 10-16 in Moscow. The work was carried out by a group that included Dr. John Laszlo, formerly of the Institute's General Medicine Branch; Dr. Berigoj Stambuk, formerly of the Laboratory of Biochemistry; Dr. Mark Woods, of the Laboratory of Biochemistry; and a Russian investigator, Dr. Joseph F. Seitz, who spent six months at the Institute under a World Health Organization fellowship.

### **Poisoned Children**

The National Clearinghouse for Poison Control Centers has uncovered an unsuspected source of poisoning to children, Surgeon General Luther L. Terry, of the Public Health Service, said recently.

Reports to the Clearinghouse from poison-control centers tell of children being poisoned by eating wisteria pods, Dr. Terry said. Wisteria plants native to North America may take the form of vines, bushes or trees.

Cases reported to the Clearinghouse involved victims who had eaten the same part of the plant — the pods. One became acutely ill after eating only two seeds from a wisteria pod. All of the victims recovered after treatment by physicians, following notice from poison-control

centers. The common symptoms of wisteria poisoning are repeated vomiting, nausea, abdominal pain, diarrhea, and abdominal swelling.

"There is surprisingly little information on wisteria toxicity," Dr. Terry said. "While none of the reported victims died, wisteria ingestion can produce serious internal disturbances. Therefore, children living in areas where wisteria grows should be cautioned not to eat any part of the plant," the Surgeon General warned.

The National Clearinghouse for Poison Control Centers serves 450 local centers including the one at Togus by providing information on thousands of poisonous substances, including commercially-made products. On a voluntary basis, over 200 major producers of drugs and household products report to the Clearinghouse the ingredients of their products and the antidotes for them. The National Clearinghouse is part of the PHS Division of Accident Prevention, headed by Assistant Surgeon General A. L. Chapman.

### **Influenza Epidemic Predicted**

Dr. Luther L. Terry, Surgeon General of the U. S. Public Health Service, predicted that there will be a new influenza epidemic in the United States this fall and winter.

He urged immediate vaccinations for people over 65, pregnant women and persons with heart diseases and other chronic illnesses.

"We are probably due for some Asian flu outbreaks, since they come in two or three year cycles," Terry said, "and we are overdue for type B flu outbreaks which come in four to six-year cycles."

More than 86,000 people in the three most susceptible



groups died from influenza between 1957 and March 1960. Asian flu has been dormant in this country since then. It has been more than six years since type B flu has been widespread.

Both types of flu were prevalent in other countries in 1960-61, especially in England. In 1951, when England had a similar epidemic, flu reached this country the following year, Terry noted.

The U. S. Public Health Service is alerting physicians, state health officers and welfare agencies to include flu shots in their programs of public assistance.

### **Live Virus Polio Vaccine Licensed**

The Type I oral, live virus polio vaccine developed by Dr. Albert Sabin has been licensed by the U. S. Public Health Service for marketing in the United States.

However, the PHS, the American Medical Association and others urged that the widest possible use still be made of the Salk killed vaccine. The principal use of the newly licensed oral vaccine this year will be against epidemic threats of Type I polio.

The license for manufacture of the oral vaccine was granted to Pfizer, Ltd., Sandwich, England, and it is being marketed in this country by Chas. Pfizer & Co., Inc., of New York.

Dr. Luther L. Terry, Surgeon General of the PHS, said he expected Type II oral vaccine to be licensed soon but that it would be several months before Type III would be licensed.

### **Drug Package Inserts Compulsory Next March**

Drug industry has been placed on notice by Food & Drug Adm. that a new regulation requiring manufacturers to supply detailed information with their products will become effective March 5, 1962. The so-called "package inserts" must accompany drugs and devices that are sold only on prescription. FDA Commissioner George Larrick minimized industry arguments that the innovation will substantially increase costs and have other drawbacks. (WRMS Sept. 11, 1961)

### **Spending Will Increase For Radiation Therapy**

Its ingenuity tested by ever increasing appropriations for cancer investigations, the National Cancer Institute has come up with a campaign in field of radiotherapy. Details are scarce but it seems grant funds will be available to medical schools and hospitals mainly for training physicians, medical students, technicians and others in radiotherapy. Certain patient costs will qualify for this kind of aid. Also building alterations and new equipment. Total amount to be used and size of grants are details still undisclosed.

"The program will be flexible enough to meet needs of individual institutions, for encouraging emphasis in areas of potential inadequacy and for giving considera-

tion to the medical service needs of a given community," said Dr. Kenneth Endicott, director of NCI. (WRMS Sept. 11, 1961)

### **Health Care Outlay In 1959-60 \$26.5 Billion**

Forthcoming issue of "Social Security Bulletin" will present following statistics on private and public expenditures for medical care in 1959-60, with 5-year tabular comparisons going back to 1928-29:

Total 1959-60 outlay of \$26.5 billion was 6.3 per cent increase over preceding year.

*Private* expenditures rose 8.2 per cent in this period but there was little change in *public* spending.

Since 1929 health care expenditures have grown from 3.6 to 5.4 per cent of the gross national product. (WRMS Sept. 11, 1961)

### **On Drafting Doctors**

Army has cleared and it is now up to Pentagon to indorse and forward to Selective Service an order for 400 physicians, 160 dentists and 67 veterinarians. Speedy processing is indicated, since 200 of the physicians, 40 dentists and 20 veterinarians are wanted for activation in October. Army, meantime, is striving diligently to recruit 500 nurse volunteers. (WRMS Sept. 11, 1961)

### **\$25 Million More In Aid To Schools Is Available**

To no one's surprise, great majority of the nation's schools of medicine, dentistry, osteopathy and public health have signified desire to take part in Washington's newest research assistance program. Application forms have been sent to them. Deadline for their execution and return is Oct. 1. Even institutions ill qualified for research and research training are likely to get a minimum grant of \$25,000, while upper bracket schools may receive as much as \$300,000. More than \$25 million will be available for distribution in current fiscal year.

This is the General Research Support Grants program. Authorized by Congress last September, it provides for institutional grants on a virtually no-strings-attached basis. Money may be used for salaries, maintenance of plant, equipment or almost anything else except costs of construction and renovation. Allocations will be determined by a formula in which governing factors include size of other U. S. aid and total of health-related research spending. (WRMS Sept. 11, 1961)

### **Blood Disorder Linked To Infectious Mononucleosis**

A blood disorder of unknown cause was linked to infectious mononucleosis.

*Continued on Page 289*

# 1961 M.M.A. Annual Session

## Reports From The House Of Delegates

### President's Remarks\*

CARL E. RICHARDS, M.D.

Mr. Chairman, Delegates and Guests. As designated in the program, it says "Remarks" so this is not going to be a formal speech. However, there are a few things that do not come to the attention of the Delegates, because they are not on any particular committee, so I thought that I would bring these up at this time.

In the first place, I wish to apologize to some of the counties that I didn't get around to. However, by the time I officially got hold of the job, things started to get active on other state levels, and it was impossible for me to make the rounds but I am sure that it was mostly my loss.

There was some question whether I would continue to be President for my own term, which would be next year, but I feel that I have done a job that any President would have done, and I really cannot, as a general practitioner, afford the time nor the money to continue for another year, so that I will call this my year and allow you to elect a new President and President-Elect.

Some of the things that I could talk about will be covered by the Chairmen of the various Committees, such as our attendance at Legislative Meetings in Augusta. There is no sense in going into that at all. I don't think there is any sense in describing the banquets that I attended in Hershey, Pennsylvania; Chicago; New York City; Washington, D. C. and the meetings of the pharmaceutical and dental societies in Maine, which are just part of the duties of the job.

However, I do want to say something about the Council of the New England States Medical Societies, which you will see in the budget. The dues are \$150.00 a year. Up until two or three years ago, this Council was more or less a social gathering. The officers of the various six States of New England met in Boston twice a year, in the fall and in the spring, and discussed various subjects that were of interest to all the States, but not much was done. We had no power. Some of them were interesting, and some of the decisions made were helpful to the local societies, after we got back home.

However, about two years ago, they decided that as long as we had this organization, we might make some-

thing out of it. They drew up a new set of by-laws and started to move ahead, and they had three objectives.

The first one was an investment retirement program, for the New England doctors.

Secondly, reciprocity among the New England States.

Third, taking over the New England Post-Graduate Assembly from the Massachusetts Medical Society.

In considering these in reverse order, this Council of the New England States Medical Societies has now taken over the Post-Graduate Assembly. It will be held this year at the same place, the Statler-Hilton Hotel in Boston, on November 6, 7 and 8.

There are two reasons why we took this over. One of them is that if all of the medical societies are in on it, and have men on the committees and have their journals advertising it, it will become a bigger and better Assembly than it has been in the past, and I am sure most of the men who go to it feel that it is the most important meeting we have in this part of the country, every year. The second reason is that they have plenty of exhibitors there and the profit is around \$3,000 to \$5,000, which is good money that the Council can use to further various other activities to the value of all of the doctors in New England.

Secondly, the reciprocity idea apparently received a chilly reception from the State Board of Medical Examinations in the six States. Nothing was done. That was a separate meeting, in one part of the room. I don't know just what they discussed but Dan\*\* knows, and they decided that at the present time it will be left "as is." I don't even know what the reciprocity between States is. Probably Dan could tell you sometime this morning.

Now, the No. 1 that I mentioned, the investment requirement program is really, in my opinion, the most important piece of business that the Council of the New England States Medical Societies started, and the Committee on Economics spent over two years trying to find some insurance company which would sell retirement insurance to the doctors of New England at a decent rate and a good policy, and we couldn't find anybody to do it, because although we had plenty of doctors, we had no way to guarantee that any of them would join the plan.

\*Presented at the 1961 Annual Session of the M.M.A. House of Delegates.

\*\*Daniel F. Hanley, M.D., Executive Director, M.M.A.



Some of the men on the committee traveled all over the United States and spent hours and weeks at this job. Finally, after a lot of work, it was decided to do it, you might say, backwards, and start an open mutual fund, for all the doctors in New England.

This is now well under way to becoming a fact. We have a prospectus which will probably be distributed in September.

We are now dickering with the Securities and Exchange Commission for a name. There is a lot of red tape to starting something new. They won't let us call it the New England Physicians Investing Corporation, simply because they feel that this company has nothing to offer that is any different than any other company, and therefore you can't put in the title something which makes people think that the New England doctors have something different than the Massachusetts Investors Trust.

At the present time, I think we will use a name such as Medallion, which means nothing, although one could detect "medicine" in the front part of it.

What we are trying to get is an open end mutual fund, with virtually no underwriting charge, competently and economically managed, solely for the benefit of its subscribers, the members of the various New England medical societies. It is designed against inflation. It provides an easy way for the individual to provide for his own retirement, where the future value is in doubt.

Under this plan, our members will be expected to buy their own State Society life insurance annuities and bonds, according to their own needs, for fixed income, and this can be done in small transactions, economically.

However, in the open end mutual fund, the bigger it is, the more economical it will be and the better retirement you will have.

Now, I am not too smart on annuity funds, and there will be a lot of questions that you will probably have. I think you had better hold them until you get a copy of the prospectus later on.

I will say that we are very fortunate. We have Standard and Poor, and we have a contract with them to have one of their Vice-Presidents advise us as to the investing of the money, for ten years, and the charge for this will be .2 of one per cent, annually, of the first \$300,000, with a minimum of \$600.00 for a full year, and after the first \$300,000 it will be .1 of one per cent annually, which is about as cheap as any mutual fund in the country can work.

We have a lawyer, George Barron, who is counsel for Standard and Poor, and he is acting as our legal advisor. His fee for organizing our minimum will be paid off over several years.

The National Shawmut Bank is taking care of the money. Their fee is one-quarter of one per cent annually of the average monthly value of the fund, plus 20-cents per item mailed.

There will be no salesmen, no charges of that kind, nothing. You put in your money and you get your shares, and if they make money you will make money, and the money will be reinvested, and so on.

I don't know whether I have made this clear or not, but any one who knows anything about such funds will get some idea of what I am trying to say. If anyone wants to talk to me about this, during the next two or three days, I will be glad to go over the prospectus with you.

To start this, we need \$100,000, and it has to be put in by twenty-five or less investors. We have more than \$100,000; we have \$150,000 already, and most of it is in checks of \$4,000 apiece.

I didn't work too hard in the State of Maine. The first day we heard about it, I found two men who would put in \$4,000 apiece; they were the first two checks received. I quit right there. Let us see what the rest of New England is going to do.

Connecticut has the Chairman of the Committee, and they also have a fund of their own in the State, there, and they came through with more than we needed, the whole \$100,000. We had \$8,000. Massachusetts had \$20,000. New Hampshire had \$15,000. The money rolled in and it is all set to go.

We have got to get a name. We have got to call up the Securities and Exchange Commission and say that we have the money, then put the prospectus on the market, and then you can join the fund.

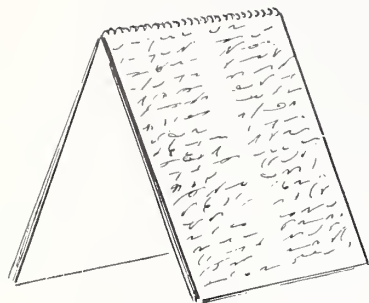
This will be especially good for young doctors. You can put in as low as \$100.00 to join. It is not a fee. It buys stock. After that you can put in \$25.00 a month for a year, or \$5,000 a month, but you can put in as low as \$25.00.

I think that is about all I have to say about that, except to say that everybody who has talked about it and read the prospectus and knows about this type of thing thinks it is really worthwhile, especially for young doctors who are trying to put away money to retire on.

We are trying to set it up so that it will fit the Keogh Bill; then, if that is passed, it will fit right in with it.

I don't think there is much more that I have to say right now. I can reserve the right to say something tomorrow at the Assembly meeting, when we elect the President and President-Elect.

If there are any questions about this, ask me some other time, not now. Thank you very much.



# From the Secretary's Notebook



## The 108th Annual Session

*Continued from August issue — page 259*

### Resolutions Approved By M.M.A. House Of Delegates

Sunday, June 18, 1961

#### LIAISON ACTIVITIES, MAINE STATE NURSES' ASSOCIATION AND M.M.A., PRESENTED BY GEORGE O. CHASE OF PORTLAND:

WHEREAS: Liaison activities between the Maine State Nurses' Association and the Maine Medical Association have in the past been ineffective in promoting understanding and rapport in areas of mutual concern in patient care in Maine; and

WHEREAS: Effective liaison demands a functional organization with specific rules to serve as a forum for discussion;

THEREFORE, BE IT RESOLVED: That the President of the Maine Medical Association or his appointee contact the executive officers of the Maine State Nurses' Association with a proposal to effect a liaison committee with the following purpose, and rules and regulations:

*Purpose:* To provide a forum for discussion of matters of mutual concern to the Maine Medical Association and the Maine State Nurses' Association, with power only to recommend courses of action to the parent organizations.

#### *Rules:*

1. Five members from each organization appointed by their officers.
2. Chairmanship to alternate beginning in January, 1962, with the Maine State Nurses' Association.
3. At least three regularly scheduled meetings in January, June and October of each year to be held in Augusta or Waterville.
4. Published agenda distributed to all members two weeks in advance of meeting.
5. Engagement of a secretary for hire who is a member of neither organization, who will keep records of the meetings, publishing these as soon after the meeting

as feasible and distributing these to all members and to the executive officers of the two societies.

#### MEDICINE AND OPTOMETRY PRESENTED BY DR. RICHARD H. DENNIS OF WATERVILLE:

In 1959, following presentation of a resolution from the section of ophthalmology, a reference committee report was adopted by the A.M.A. House of Delegates. It was felt that there was an urgent need for an investigation between medicine and optometry and at that time a subcommittee to study this problem was set up.

Since that time there has been no report forthcoming from the committee and it has been brought to the attention of the Ophthalmological Section of the Maine Medical Association that other sections throughout the nation are sponsoring a new resolution to establish a new and active committee with specific instructions to report on a thorough study of the association between optometry and medicine. The Ophthalmological Section of the Maine Medical Association feels that it is in favor of the establishment of such a committee and hereby submit the following resolution to the Maine Medical Association for appropriate action:

WHEREAS, in 1959 there was introduced in the House of Delegates of the A.M.A. Resolution No. 31 calling for the establishment of a Commission to Study the Relation of Medicine to Optometry, and to report to the House of Delegates; and

WHEREAS, the House of Delegates caused to be established a Sub-committee to Study the Relation of Medicine to Optometry, under the then Joint Committee to Study Paramedical Areas in Relation to Medicine; and



WHEREAS, the original Joint Committee to Study Paramedical Areas in Relation to Medicine has been succeeded by the Committee on Relationships of Medicine with Allied Health Professions and Services; and

WHEREAS, optometrists are not ancillary to medicine, but are independent licensed practitioners, and therefore do not constitute an allied health profession; and

WHEREAS, there exists confusion in the public mind as to the distinction between medical care for patients with ocular complaints and optometric services; and

WHEREAS, the lack of understanding in this area is a threat to the welfare of the patient; therefore be it

RESOLVED, that the House of Delegates of the A.M.A. establish a Commission on the Relation of Medicine to Optometry, to be appointed by the Speaker of the House; at least half the members of which Commission shall be physicians practicing in the ophthalmological branch of medicine; and be it further

RESOLVED, that it shall be the specific function of this Commission to conduct a broad study, from the standpoint of the public interest, of the problems involved in the present relation of medicine to optometry, and to explore all possible and desirable solutions to these problems; and be it further

RESOLVED, that the Board of Trustees of the A.M.A. be requested to provide adequate personnel and funds for the proper performance of the duty assigned to this Commission; and be it further

RESOLVED, that this Commission shall report to the House of Delegates of the A.M.A. not later than June 1962.

"In the event that such a resolution is approved by the A.M.A. House of Delegates, the President of the Maine Medical Association be empowered to appoint a similar State Study Committee."

**PARAMEDICAL PERSONNEL PRESENTED BY  
DR. JOSEPH E. PORTER OF PORTLAND:**

Resolved that the Maine Medical Association approve the following resolution relative to paramedical personnel as drawn up by the College of Medical Pathologists and that this resolution be introduced from the Maine Medical Association by the Delegate of this Association, Dr. Asa C. Adams, at the A.M.A. meeting to be held in June, 1961 in New York City.

WHEREAS, each specialty of medical practice has long been engaged in providing physician leadership and guidance for the paramedical and technical personnel closely related to it; and

WHEREAS, the relationships with paramedical and technical personnel are always delicate, and are usually the result of many years of cooperation and mutual discussion; and

WHEREAS, despite the best of intentions, much harm can be done to these relationships with paramedical and technical personnel through unilateral intervention of individuals or groups of individuals who have not had

technical experience in the field and who have not spent months and years in building up a spirit of co-operation; therefore, be it

RESOLVED, that it shall be the policy of the American Medical Association that all matters involving paramedical personnel, in so far as they may require action by the A.M.A., shall be referred to the A.M.A. Council on Medical Education and Hospitals, or to one of the subcommittees of said Council; and be it further

RESOLVED, that the Council on Medical Education and Hospitals, or said subcommittee, be hereby instructed to confer fully with representatives of groups of physician specialists whose field of practice is most closely related to the activities of the paramedical personnel in question; and be it further

RESOLVED, that the aforementioned Council on Medical Education and Hospitals shall have exclusive jurisdiction within the A.M.A. but before taking action it shall report its findings and recommendations to the House of Delegates whose decision shall constitute the official policy of the A.M.A.

WHEREAS, each specialty of medicine has long been interested in providing physician-leadership and guidance in its relationship to the paramedical and technical personnel that is closely related to it, and

WHEREAS, such relationship is always delicate and the result of many years of cooperation and mutual discussion, and

WHEREAS, such subtle relationships are not easily understood by physicians in other specialties which have not been traditionally working with such specific paramedical groups, and

WHEREAS, intrusion of poorly informed and not professionally concerned physicians into such a delicate balance is likely to be mutually harmful,

NOW THEREFORE BE IT RESOLVED, that the American Medical Association, its officers, commissions or committees contact a paramedical group for the purpose of physician-leadership, cooperation or implementation of that group's professional activities, they shall do so with the closest cooperation and knowledge of the specialty of medicine that traditionally has its main area of practice in the general area of the paramedical group activity, and

BE IT FURTHER RESOLVED, that when said commissions or committees begin to consider the interests and areas of activities of paramedical groups for study or otherwise, there shall be appointed to said commission or committee an Ad Hoc Subcommittee, comprised of members of the traditional and interested medical specialties in that area, and

BE IT FURTHER RESOLVED, that such Ad Hoc Subcommittee shall be the one to decide on and to make any contact with said paramedical group, to determine and to recommend the proper agreements and avenues of cooperation which will be used in guiding the ethical development of the paramedical group, and

BE IT FURTHER RESOLVED, that when there is a con-

flict in principles regarding the proposed relationships with paramedical groups, between the Ad Hoc Subcommittee and the main committee or commissions, such conflict shall be resolved by the House of Delegates.

**NURSING HOMES INTRODUCED BY  
DR. HAROLD N. WILLARD OF WATERTOWN:**

**THEREFORE, MAY IT BE RESOLVED:** That the Maine Medical Association give its wholehearted support to any local group of physicians who will do a pilot study of the Nursing Home problem and report their findings to a future meeting of the House of Delegates.

**SPEAKER OF THE HOUSE PRESENTED BY  
DR. LINUS J. STITHAM OF DOVER-FOXCROFT:**

**"BE IT RESOLVED:** That the By-Laws of the Maine Medical Association be amended to provide for the following elective office: That of Speaker of the House of Delegates, whose duties shall be to preside at and to conduct all meetings of that body. The Speaker shall be elected by the House of Delegates, at its final meeting at the Annual Session."

This resolution is to be circulated to the component societies, now, with definitive action to be taken at the Interim Session of the House of Delegates.

**CLINICAL HYPNOSIS PRESENTED BY  
DR. CLYDE I. SWETT OF ISLAND FALLS:**

**RESOLUTION:** Relating to practice of medical hypnosis.

**WHEREAS,** the outstanding leaders in the field of hypnosis, the two leading American Societies, the American Society of Clinical Hypnosis, and the Society for Clinical and Experimental Hypnosis, the British Medical Association, the American Medical Association, and the Maine Society of Clinical Hypnosis, have accepted hypnosis as an ethical and effective procedure in the fields of medicine, dentistry, and psychology, and

**WHEREAS,** the use of hypnosis by professionally unqualified and untrained persons, or by amateurs, or for stage or parlor entertainment is unwise and unsafe, now therefore

**BE IT RESOLVED THAT:**

1. The Maine Medical Association endorse and accept hypnosis as an ethical and effective, medical, dental and psychological procedure, but actively condemn and oppose the use of hypnosis by professionally unqualified individuals or by amateurs or for purposes of entertainment.

2. The Maine Medical Association approve the use of hypnosis only by doctors of medicine, dentistry, and psychology; provided, however, medical qualification is to be based upon requirements as outlined by the American Medical Association. Psychologists shall apply hypnosis for therapeutic purposes only in consultation with a licensed medical doctor.

3. A committee be appointed to study and prepare a Bill to be presented at the next Maine State Legislature, such Bill to embody the principles outlined in Paragraphs 1 and 2 above.

**MODE OF OPERATION OF COUNCIL INTRODUCED BY  
DR. ROBINSON L. BIDWELL OF PORTLAND:**

**BE IT RESOLVED:** That a Committee shall be formed to review the size, make-up and mode of operation of the Council of the Maine Medical Association, to consider whether changes should or should not be made to maintain its best efficiency, as the operating executive arm of the House of Delegates, and to report on said matter to the next meeting of the House of Delegates, said Committee to be composed of one member from each Councilor District, with such member to be chosen by caucus of Delegates in that District.

**HEALTH AND PHYSICAL EDUCATION PRESENTED BY  
DR. NORMAN E. DYHRBERG OF CUMBERLAND MILLS:**

**BE IT RESOLVED:** That the Maine Medical Association support the resolutions passed by the House of Delegates of the American Medical Association in June, 1960, relative to health and physical education. These stated:

**RESOLVED:** That the American Medical Association reaffirm its long-standing and fundamental belief that health education should be an integral and basic part of school and college curriculums and that state and local medical societies be encouraged to work with the appropriate health and education officials and agencies in their communities to achieve this end.

**RESOLVED:** That the American Medical Association, through its various divisions and departments and its constituent and component medical societies do everything feasible to encourage effective instruction in physical education for all students in our schools and colleges.

The Maine Medical Association further requests the State Board of Education to give serious consideration to upgrading present standards for health and physical education in accredited secondary schools in line with the following:

1. A minimum of one semester of direct health instruction in junior high schools or during grades 7-9 inclusive.

2. A minimum of one semester of direct health instruction in senior high schools, grades 10-12.

3. A minimum of 100 minutes per week (2 fifty-minute periods) of physical education for all students, grades 7-12. (No change from present)

**RECOMMENDATIONS PRESENTED BY HEALTH INSURANCE  
COMMITTEE AND APPROVED BY HOUSE OF DELEGATES**

a. That M.M.A. Group Insurance Plan be changed to Blue Shield "C".



b. That provisions be made in order to cover "over-age 19 dependents."

c. That major medical coverage be available through B.S. in connection with Phoenix Insurance Company.

#### SOCIAL SECURITY

A resolution that the M.M.A. favor participation in the Social Security Act was defeated and the following motion by Dr. Charles D. McEvoy, Jr. of Bangor approved:

I would like to bring up the submitting of this question to an appropriate committee, so that this matter of the stand of this Association on Social Security can be brought up before this House at the next meeting.

I would move that such a Committee be appointed, and that a report be made at the next meeting of the House of Delegates.

#### ELECTION OF COUNCILORS

Councilors elected for three year terms are as follows:  
Raymond E. Weymouth, M.D. of Bar Harbor, Coun-

cilor for the Fifth District, which includes Hancock and Washington Counties.

Clyde I. Swett, M.D. of Island Falls, Councilor for the Sixth District including Aroostook, Penobscot and Piscataquis Counties.

At the Special Meeting of the House of Delegates on Monday, June 19, Charles W. Eastman, M.D. of Livermore Falls was elected Councilor for the Second District for two years to fill the unexpired term of James A. MacDougall, M.D. This District includes Androscoggin, Franklin and Oxford Counties.

#### GENERAL ASSEMBLY

Carl E. Richards, M.D., President, presided at the General Assembly on Monday, June 19. Dr. Richards who had served as acting President during the illness of Wilson H. McWethy, M.D. and as President following Dr. McWethy's death, presented his resignation as President for 1961-1962. Consequently, the election of a President and a President-elect became the major business for this session and James A. MacDougall, M.D. of Rumford, was elected President and Ralph C. Stuart, M.D. of Guilford elected President-elect.

## 1961 COMMITTEE REPORTS

### Report of the Committee On Aging\*

GEORGE J. ROBERTSON, M.D.

There were no meetings of the Committee on Aging this year. The national interest in the past year focused on the income and employment status of older people, and on the maintenance of their health and the provision for medical services. This interest culminated in the White House Conference on Aging held in Washington in January of 1961. A summary of this conference is presented because of the impact which it will have on federal legislation and medical care for the aged generally.

The most discussed problem cut across the areas of income and medical care — namely, that of how to meet the costs of the increased need for health and medical services in the later years of life when long term sickness and disability reach their greatest prevalence. Seven work groups in the section on income maintenance devoted their full attention to the problem. Six of the seven work groups voted to support the principle of paid-up health insurance through the Social Security system. Their recommendation was adopted by the section and reported to the total conference in its final plenary session.

The question of what roles may be the most meaningful to older citizens and ways in which these can be assured, were considered at length. It was recognized that any meaningful role is difficult unless sound health and income sufficient to maintain reasonably decent living standards are available. Given health and adequate income, it was felt that older

citizens could be free to adopt new roles and status in society.

Relative to income maintenance, it was recommended that Old-Age, Survivors, and Disability Insurance, now covering 90 per cent of all gainfully employed, and protecting over 70 per cent of the present aged group, should be extended to all who work, the level of benefits to be adjusted from time to time to maintain the purchasing power of the benefit.

It was felt that public assistance, under which income is now provided for some two million whose needs exceed any income they may have from Social Security or other sources, is an essential residual program. The present arrangement of joint financing by federal and state governments was felt to be sound.

It was felt that many needy aged today do not receive income they need because of restrictive residence requirements, and that these should be abolished, also that the Congress should amend the Social Security Act to make women eligible for Old-Age Assistance at the Age of 62, and that the federal government should participate financially in general assistance on the same basis as it does in other categories of public assistance.

The problem of financing health care was felt to be so large and complex that its solution will require the use of a variety of approaches, individual and family resources, voluntary health insurance, industrial programs, Social Security, public assistance, and a variety of other programs.

The majority of the delegates believed that the Social Security mechanism should be the basic means of financing health care for the aged, contributions made by workers dur-

\*Presented at the 1961 Annual Session of the M.M.A. House of Delegates.

ing their working years to provide health care in retirement. Such legislation would be expected to help ease the problems of hospitals, public assistance programs, and private philanthropy, and relieve the voluntary insurance programs of the burden of carrying this high risk group. The delegates felt that these principles and conclusions were sound, and would if implemented go far in assuring to America's senior citizens a more economically secure and therefore happier old age.

It was recommended that the Old-Age, Survivors, and Disability Insurance systems be extended to all areas of employment and self-employment.

Since it was felt that too many Old-Age Assistance recipients are receiving too little assistance to insure a minimum standard of health and decency, the following recommendations were made:

That state provisions on relatives' responsibility in public assistance be equitable, practical, and designed to contribute to strengthening family life; that the contribution required of the family should not be deducted from the assistance payment unless the relative actually pays it; and that if the relative does not pay, it should be the responsibility of the state to secure the payment.

That the ultimate goal be the elimination of all residence requirements.

That the federal government pay 100 per cent of the costs of training public assistance personnel.

That federal matching funds be made available to state welfare departments to meet costs of developing, securing and operating consultative, protective and rehabilitative programs for the aged.

The impact of inflation on retired persons was seriously studied. It was noted that since 1949 the U. S. dollar has depreciated in purchasing power at the cumulative rate of 2.0 per cent per year. A man who retired in this country in 1948 on a \$100 per month pension, now has only about \$76 a month in purchasing power. The Inflation Section recommended that Old-Age, Survivors, and Disability Insurance benefits be adjusted to changes in prices, wages, and productivity.

Private pensions and deferred profit sharing plans now cover 30 per cent of the working force. It was felt that management should be encouraged to extend coverage to more employees, and to introduce portability features so that retired workers might more and more be protected by private pensions supplementing Social Security.

Modification of the earnings test was urged. The section questioned the principle of a fixed retirement age and urged consideration of some form of flexibility.

It was recommended that the present \$4,800 base for computing Old-Age, Survivors, and Disability Insurance taxes and benefits be increased periodically in proportion to the increase in the average wage level.

In Section 5 on Health and Medical Care, including Institutional Care, it was felt that the quality of care in many institutions could be greatly improved, that licensing laws must be adequate to protect the public and must be rigorously enforced, and that essential to improvement of standards beyond minimum levels is a voluntary accreditation program such as the Joint Commission on Accreditation of Hospitals.

Again it was felt that adequate care could not be provided without sufficient financing, both for construction and for provision of services. Everything possible should be done to encourage voluntary prepayment groups to expand and broaden their coverage for aged individuals, and to extend such coverage over the whole institutional care spectrum and to care in the home. Local, state and federal government financing would be required in increasing amounts to supplement individual resources and voluntary prepayment.

Special emphasis was given to care at home. Physicians' services are essential to care at home, and it was felt that

the physician should be the coordinator of services provided to the individual.

Decisions regarding policy, community action, and methods of financing should be made locally. Maximum income should be developed from patient fees, philanthropy and insurance. Where these do not suffice, the tax dollar must bridge the gap. It was thought that payment levels should cover the total cost of the service involved, including administrative expense, that reimbursement to suppliers of service should be at realistic levels, and that prepayment and public assistance programs should make specific provision for payment for services in the home. Leadership should be given by the state health departments in appraising nursing care needs and in developing plans to meet these needs.

Relative to health maintenance, it was felt that the health professions must assume the leading role in this effort, and through mass media, schools, industry, and other agencies, prescribe what is best for the preservation of the health of the aging. Community health councils were urged to coordinate effects in this area. Fluoridation of water supplies as a long range benefit for dental health was recommended.

It was recognized that public attitudes toward mental health could and must be changed, and that this enlightenment should begin with the child in the family and continue throughout life. The mentally ill aged should receive services in the community from the same agencies and clinics serving other groups. The aged should receive mental hospital service only when they are mentally ill and there are psychiatric indications. Mental health services, in-patient and out-patient, should be organized locally to allow free movement of patients between services, depending upon treatment needs. Each community should provide a proper psychiatric evaluation of any patient prior to commitment proceedings. It was also felt that any plans which provide health care or assistance should not exclude the mentally ill.

Communities were urged to have health services for the aging. Fact finding, program planning and implementation, coordination of health services, and continuity of care for the chronically ill and disabled are necessary for organization of such community health services.

The status of health and medical care programs should be periodically appraised, utilizing services available from state health departments. Communities were urged to periodically study the health needs of their older residents and the total community resources available to meet these needs as a basis for planning comprehensive community program.

The section on rehabilitation suggested that consideration should be given to making a medical rehabilitation service a condition of accreditation for all hospitals with approved internship training programs; that adequate out-patient and in-patient facilities for rehabilitation of the aging should be established in hospitals and rehabilitation centers; that physical, psychiatric and psycho-social evaluation of aging disabled persons should be established to minimize institutional placement; that additional supportive community facilities such as home care programs, day hospitals, patient groups, and foster homes should be developed; that well rounded diagnostic and rehabilitation services augmented by supportive care facilities should be developed for persons who can no longer benefit from definitive treatment; that a total rehabilitation point of view should prevail in the care of the aged who have severe hearing or visual loss or other severe impairments; that special consideration should be given to malnutrition and inadequate hydration in the aging; that there should be a greater development of cardiac and pulmonary work evaluation units; that the Public Health Service should consider the establishment of a National Institute of Rehabilitation; and that voluntary and other health insurance plans should provide in-patient and out-patient coverage for rehabilitation services in hospitals and in rehabilitation centers.

It was felt that the Joint Commission on Accreditation of



Hospitals should require that adequate rehabilitation services be available to those institutions it accredits. Facilities offering long term care should apply simple rehabilitation services to be approved or licensed. Training programs should be available and payment structured to encourage such services. Geriatric rehabilitation should begin in the facility of first admission, and be continued in any other institution to which the patient is transferred.

Local communities should establish home care programs (including homemaker services) in order to assure the handicapped older individual the optimum degree of independent living. Federal and other funds should be available in this area.

Public Health agencies should be more adequately financed in order to allow them to assume a greater responsibility in the field of rehabilitation. States might set up councils with representatives of all tax supported programs providing services to older handicapped individuals.

It was felt that we face a problem of ignorance and complacency rather than emotion and controversy, and it was urged that concern be shown at national, state and local levels by active promotion and financial aid to programs.

Major policy recommendations of the biologic research section in gerontology: Early establishment of a National Institute of Gerontology within the existing framework of the National Institute of Health to study the basic biological changes underlying the aging process; the providing of lifetime basic salary support by national granting agencies, private and public, for outstanding established investigators.

The section on local community organization laid out suggestions for functions of local committees, their financing and structure, methods of financing.

Section 20 was on federal programs and recommended the following federal activities:

Congress should establish an Advisory Council on Health Care Benefits, broadly representative of all interested groups, to consider the detailed questions that will be involved in adding health care benefits to Old-Age, Survivors, and Disability Insurance, and to report to Congress.

The existing federal-state programs that are now providing health care benefits, research, and facilities for the elderly, should be preserved and strengthened, since these programs are essential and must be continued and improved whether or not Congress decides to finance health care benefits for other segments of the elderly population through a contributory social insurance system.

Every governmental program of health care for the aged should embody a provision granting beneficiaries full freedom in choosing a physician, dentist, hospital, nursing home, dispenser of prescription medications, or other provider of health services.

To foster more activities on behalf of the aging on a local and voluntary basis, the federal government should support small, short term (2 years) experimental or demonstration action projects proposed by private, local or state organizations to stimulate and initiate community services.

This brief summary represents the majority opinion of over 2,500 delegates to the White House Conference on Aging from all parts of our nation. The majority of physicians attending the conference were not in accord with many of these recommendations, nor is the American Medical Association.

I recommend that a new Committee on Aging be formed, of physicians imbued with the philosophy of the AMA, and interested in third party financing, of health care.

## Maine Medical Association

### SPECIAL COMMITTEES — 1961-1962

Special Committees for 1961-1962 as appointed by the President, James A. MacDougall, M.D., of Rumford.

#### **Amy W. Pinkham Fund Committee**

Norman H. Nickerson, M.D., Greenville — Chairman  
Virginia C. Hamilton, M.D., 900 Washington St., Bath  
Albert M. Carde, M.D., 33 Elm St., Milo  
Thomas A. Foster, M.D., 131 State St., Portland  
Ella Langer, M.D., State House, Augusta  
Forrest B. Ames, M.D., 255 Hammond St., Bangor

#### **Diabetes Committee**

Melvin Bacon, M.D., 122 Main St., Sanford — Chairman  
John S. Houlihan, M.D., 209 State St., Bangor  
Paul J. LaFlamme, M.D., 106 Russell St., Lewiston  
Henry M. Howard, M.D., 105 Franklin St., Rumford  
Elton R. Blaisdell, M.D., 12 Deering St., Portland

#### **Committee For Maternal & Child Welfare**

Alice A. S. Whittier, M.D., 143 Neal St., Portland — Chairman  
Philip B. Chase, M.D., 36 Main St., Farmington  
William M. Shubert, M.D., 317 State St., Bangor  
Ella Langer, M.D., State House, Augusta  
Louis C. Lesieur, M.D., 66 Beach St., Saco

#### **Committee On Aging**

Harold N. Willard, M.D., Thayer Hospital, Waterville — Chairman  
Carleton H. Rand, M.D., 219 Oak St., Lewiston  
Eustache N. Giguere, M.D., 90 Webster St., Lewiston  
Robert O. Kellogg, M.D., 316 State St., Bangor  
Brinton T. Darlington, M.D., Westwood Rd., Augusta  
Leon R. Jellerson, M.D., 34 Winter St., Sanford

#### **School Health Committee**

Norman E. Dyhrberg, M.D., 323 Main St., Cumberland Mills — Chairman  
Margaret S. Smith, M.D., Box 967, Presque Isle  
Marion K. Moulton, M.D., West Newfield

#### **Committee On Mental Health**

Guy N. Turcotte, M.D., 38 Deering St., Portland — Chairman  
Francis H. Sleeper, M.D., Box 724, State Hospital, Augusta  
Frank S. Broggi, M.D., 18 Neal St., Portland  
Jerome W. Bergmann, M.D., 255 Western Promenade, Portland  
Harold A. Pooler, M.D., State Hospital, Bangor

**Committee On Disaster Medical Care**

Richard C. Wadsworth, M.D., 489 State St., Bangor — Chairman

Harry Butler, M.D., 77 Broadway, Bangor — Deputy Chairman

*District Members*

1st - Ralph A. Getchell, M.D., 690 Congress St., Portland  
 2nd - Ralph A. Goodwin, Sr., M.D., 56 Denison St., Auburn  
 3rd - Edward K. Morse, M.D., 22 White St., Rockland  
 4th - Allan J. Stinchfield, M.D., 16 E. Chestnut St., Augusta  
 5th - James H. Crowe, M.D., 121 Main St., Ellsworth  
 6th - Clyde I. Swett, M.D., 18 Sherman St., Island Falls

*Members-at-Large*

Gilbert Clapperton, M.D., 300 Main St., Lewiston  
 Clark F. Miller, M.D., 46 Madison St., Auburn  
 Charles W. Steele, M.D., 472 Main St., Lewiston  
 Dean H. Fisher, M.D., State House, Augusta  
 Frederick T. Hill, M.D., Thayer Hospital, Waterville  
 Clifford W. Gates, M.D., Flaggy Meadow Rd., Gorham

*Blood Transfusion Committee Members*

Charles F. Branch, M.D., C.M.G. Hospital, Lewiston  
 Nelson P. Blackburn, M.D., 489 State St., Bangor  
 Joseph E. Porter, M.D., 22 Bramhall St., Portland

**Committee On Alcoholism**

Gilmore W. Soule, M.D., 22 White St., Rockland — Chairman  
 Paul A. Jones, M.D., Union  
 Jacob M. Jackler, M.D., 14 Gilman St., Waterville

**Committee On Conservation Of Vision**

Dexter J. Clough, 2nd, M.D., 224 State St., Bangor — Chairman  
 Howard F. Hill, M.D., 33 College Ave., Waterville  
 Paul Maier, M.D., 723 Congress St., Portland  
 Paul E. Floyd, M.D., 2 Middle St., Farmington  
 Otis B. Tibbetts, M.D., 181 Gamage Ave., Auburn  
 Ralph A. Goodwin, Jr., M.D., 33 Court St., Auburn

**Maine Committee — American Medical Education Foundation**

Robert W. Agan, M.D., 144 State St., Portland — Chairman  
 Charles R. Glassmire, M.D., 58 Deering St., Portland  
 Paul A. Fichtner, M.D., 6 Pleasant St., Rangeley

**Veterans Affairs Committee**

William C. Burrage, M.D., 57 Deering St., Portland — Chairman  
 Robert L. Ohler, M.D., Veterans Administration, Togus  
 Lorimer M. Schmidt, M.D., Veterans Administration, Togus

**Committee On Hospital Infections**

George F. Sager, M.D., 18 Bramhall St., Portland — Chairman  
 Brinton T. Darlington, M.D., Westwood Rd., Augusta  
 Charles D. McEvoy, Jr., M.D., 316 State St., Bangor

*Representing County Medical Societies*

Charles F. Branch, M.D., C.M.G. Hospital, Lewiston (Androscoggin)  
 Raymond G. Giberson, M.D., 555 Main St., Presque Isle (Aroostook)  
 Morrill Shapiro, M.D., 29 Deering St., Portland (Cumberland)  
 Wallace H. Duffy, M.D., 100 Main St., Farmington (Franklin)  
 Llewellyn W. Cooper, M.D., 194 Main St., Bar Harbor (Hancock)  
 Brinton T. Darlington, M.D., Westwood Rd., Augusta (Kennebec)  
 John A. Root, M.D., 22 White St., Rockland (Knox)  
 Mary J. Tracy, M.D., Bristol Rd., Damariscotta (Lincoln-Sagadahoc)  
 Albert P. Royal, Jr., M.D., 82 Maine Ave., Rumford (Oxford)  
 Charles D. McEvoy, Jr., M.D., 316 State St., Bangor (Penobscot)  
 Francis W. Bradbury, M.D., 16 E. Main St., Dover-Foxcroft (Piscataquis)  
 H. Carl Amrein, M.D., 29 Weston Ave., Madison (Somerset)  
 George L. Temple, M.D., Fahey St., Belfast (Waldo)  
 George N. Nackley, M.D., 1 School St., Machias (Washington)  
 Maurice Ross, M.D., Main St., Saco (York)

*State of Maine*

Alta Ashley, M.D., District III Health Office, Augusta

**Committee On Industrial Health**

Albert P. Royal, Jr., M.D., 82 Maine Ave., Rumford — Chairman  
 Eugene P. Wolfahrt, M.D., 338 Main St., Saco  
 Edwin W. Harlow, M.D., 177 Main St., Waterville  
 William A. Monkhouse, M.D., 131 State St., Portland  
 Norman E. Dyhrberg, M.D., 323 Main St., Cumberland Mills

**Joint Committee On Nursing & Medical Problems**

Paul S. Hill, Jr., M.D., 323 Main St., Saco — Chairman  
 Eugene E. O'Donnell, M.D., 32 Deering St., Portland  
 Philip P. Thompson, Jr., M.D., 131 Chadwick St., Portland  
 George O. Chase, M.D., 144 State St., Portland

**Arthritis Committee**

Philip P. Thompson, Jr., M.D., 131 Chadwick St., Portland — Chairman  
 Joseph A. Marshall, M.D., 177 Main St., Waterville  
 Philip L. Archambault, M.D., 346 Main St., Lewiston  
 Charles R. Glassmire, M.D., 58 Deering St., Portland



# Laws Relating To Medical Examiners

Revised Statutes of 1954, Chapter 89, Sections 243 to 253,  
As Amended by the Public Laws of 1955, 1957, 1959 and 1961

Sec. 243. *Appointment of medical examiners; duties.* — Medical examiners for each county in the State shall be appointed by the Governor with the advice and consent of the Council for a term of 4 years or during the pleasure of the Governor and Council. They shall be able and discreet men, learned in the science of medicine and anatomy, and bona fide residents of the county for which they are appointed. The number of medical examiners so to be appointed shall be as follows: For the Counties of Knox, Piscataquis, Sagadahoc and Waldo, 2 each; for the Counties of Franklin, Hancock, Lincoln, Oxford and Somerset, 3 each; for the Counties of Kennebec, Washington and York, 4 each; for the County of Androscoggin, 5; for the County of Aroostook, 6; for the Counties of Cumberland and Penobscot, 7 each; and they shall be appointed with reference to territorial distribution. Each medical examiner before entering upon the duties of his office shall be duly sworn to the faithful performance of his duty. They shall make examinations, as hereinafter provided, whenever any person shall die from criminal violence, or by suicide or in any suspicious or unusual manner. (1957, cc. 283, 284; c. 429, sec. 78.) (1959, cc. 231, 318; c. 378, sec. 59.) (1961, cc. 228, 230, 237.)

Sec. 244. *Notice of finding of body.* Whoever finds the body of any person who is supposed to have come to his death by violence or by the action of chemical, thermal or electrical agents or following abortion, or suddenly when not disabled by recognizable disease or who has come to his death unexplained or unattended, shall immediately notify one of the municipal officers, a police officer or constable if in a city or town; or a member of the board of assessors if in a plantation; and if in an unorganized place, the most readily accessible of such officials in any city, town or plantation within the county. Such official shall immediately take charge of such body and retain custody thereof without moving the same, except as hereinafter provided, until the arrival of a medical examiner, the county attorney, the sheriff or a member of the State Police. The official taking charge of said body shall immediately notify the county attorney or sheriff, who shall in turn arrange for the attendance of the most readily accessible medical examiner. If the body, where found, is in danger of being destroyed or damaged by fire, vehicular traffic or otherwise, or of being lost in any body of water, any person may take steps as may seem necessary for its preservation or retention prior to the arrival of the medical examiner, sheriff, a member of the State Police or the county attorney, but in such event shall first, whenever practicable, exactly mark the location and position of the body. If no such danger exists, the body shall not be moved until the arrival of the medical examiner, the sheriff, a member of the State Police or the county attorney, and until photographs have been taken or measurements and drawings have been made to record the physical facts relative to the location and position of the body, under the supervision of the county attorney, the State Police or sheriff, or unless the Attorney General or the county attorney waives such requirements. After such photographs or such measurements and drawings have been made or have been waived as aforesaid and after the medical examiner has completed such examination as required of him in section 245, the body may be removed to a convenient place. The body shall not be finally released for embalming or burial, except by

order of the county attorney or sheriff. If and when it shall appear to the county attorney that the case is one of probable homicide, he shall notify the Attorney General of the fact. (1955, c. 326, sec. 1.)

Sec. 244-A. *Death without medical attendance.* When any person shall die without the attendance of a physician in his or her last sickness, the head of the household in which such death occurred, any funeral director called to remove the dead body, or any physician called to examine the dead body shall call a medical examiner to examine the body and shall give him all information which they may have concerning the death. (1959, c. 291, sec. 10.)

Sec. 245. *Proceedings by medical examiner upon receiving such notice.* Upon notice that there has been found or is lying within his county the body of a person who is supposed to have come to his death by violence or by the action of chemical, thermal or electrical agents or following abortion, or suddenly when not disabled by recognizable disease, or any unexplained or unattended deaths, it shall be the duty of any person having knowledge of such death to notify the medical examiner of the county wherein the body lies and such medical examiner shall forthwith repair to the place where such body lies and take charge of the same, and before said body is removed, he shall reduce or cause to be reduced to writing a description of the location and position of the body and any and all facts that may be deemed important in determining the cause of death. He shall, upon authorization of the county attorney or the Attorney General, make an autopsy in the presence of a physician and one other discreet person sufficient in his judgment to disclose such facts as may be attainable thereby which may be of assistance in determining the cause of death. He may compel the assistance of such physician and person, by subpoena if necessary, and he shall then and there at the time of such autopsy reduce or cause to be reduced to writing every fact and circumstance disclosed by such autopsy tending to show the manner and cause of death, which record shall be signed by himself and the witnesses who have attended, who shall in addition to their names subscribe their address and place of business. In case at the time of finding of such body there be no medical examiner available within the county by reason of vacancy in the office, incapacity or absence from the county, any medical examiner in an adjoining county may be notified, whose duty it shall be to attend and perform all duties prescribed by sections 243 to 253, as though he were a medical examiner within the county. (1955, c. 326, sec. 2.)

Sec. 246. *Notice to Attorney General; return of death to town clerk.* Immediately after such view with personal inquiry or autopsy as is required by section 245, the medical examiner shall file with the county attorney of the county in which the body is found and with the Attorney General a duly attested copy of the record of the case. He shall also make a return of the death of such person to the city or town clerk as required by law, which shall be supplemented with a personal description of the deceased for identification.

Sec. 247. *Autopsy ordered by Attorney General; inquest.* The county attorney or Attorney General may require the medical examiner to perform an autopsy if in their judgment the same is advisable, in cases where the medical examiner has not deemed it necessary to do so, and on receiving from



a medical examiner the report of an autopsy made by him in pursuance of sections 243 to 253 and finding some person or persons probably implicated, may, when deemed necessary, authorize the medical examiner to take an inquest upon the view of the dead body of the person whose death is supposed to have been occasioned unlawfully; such medical examiner shall thereupon summon to appear before him such witnesses as the county attorney or Attorney General may direct, who shall be examined under oath by said county attorney or Attorney General. All such testimony shall be reduced to writing by the medical examiner or under his direction and shall be signed by the witness and sworn to. The medical examiner shall preside at such inquest and shall report in writing his conclusions, when and where and by what means the person came to his death, to the county attorney or Attorney General, and if it appears to him that it was a case of homicide, he shall so state and may state the name of the person who, in his judgment there is probable cause to believe, contributed to such death, if known to him. The county attorney and the Attorney General shall then proceed to execute the laws of the State governing the offices which they hold and may direct the holding of witnesses as they shall deem necessary.

Sec. 248. *Inquest when county attorney or Attorney General disagree with medical examiner.* If a medical examiner reports that a death was not caused by criminal violence, or by suicide or in any suspicious or unusual manner and the county attorney or Attorney General is of a contrary opinion, nothing in sections 243 to 253 shall be construed to prevent either of these officers directing an inquest in accordance with said sections.

Sec. 249. *Expert aid called; compensation.* The medical examiner with the advice and consent of the county attorney or Attorney General may, if he deems necessary, call a chemist or other expert to aid in the examination of the body or of substance supposed to have caused or contributed to the death of such person, and such chemist or other expert shall be entitled to such compensation for his services as the medical examiner and the county attorney shall certify to be just and reasonable. Any person employed to reduce to writing the results of any of the proceedings provided for in section 243 to 253 shall be sworn and shall be allowed reasonable compensation.

Sec. 250. *Disposal of dead body after autopsy; if body unidentified; expense of burial.* The medical examiner upon the completion of his examination, autopsy or inquest shall deliver the dead body upon their claim therefor to one or more of the persons hereinafter named, and they shall be entitled thereto as follows: 1st, the husband or wife as the case may be; 2nd, the next of kin; 3rd, any friend of the deceased. If the dead body is unidentified or is unclaimed for a period of not less than 48 hours following the view thereof, the medical examiners shall deliver the body to the overseers of the poor in the town, or if in a plantation or unorganized place, to the county commissioners, who shall decently bury the same or shall deliver it to the board of distribution as provided in section 12 of chapter 66. The expense of burial shall be borne by the municipality liable for the support of the deceased, if any within the State, and if not, by the State.

Sec. 251. *Personal effects.* In all cases arising under sections 243 to 253, the medical examiner shall take charge of any money or any other personal effects of the deceased found upon or near the body and, subject to the right of the State to use the same as evidence, shall deliver them to the person or persons entitled thereto, or if there is any doubt regarding to whom they shall be delivered, this fact shall be made known

to the judge of probate for the county, whose directions in the case shall be followed.

Sec. 252. *Compensation of medical examiner.* Every medical examiner shall render an account of the expenses of each case, including his fees, to the county attorney, who shall audit and approve the same before it is submitted to the county commissioners for their approval, and the fees allowed the medical examiner shall not exceed the following: For a view and inquiry without an autopsy, \$20; for a view and autopsy, \$50; when the medical examiner performing an autopsy is a pathologist, \$100, whether he makes a view or not; for an inquest, \$10 per day for the time actually spent in holding such inquest and for all necessary travel at the rate of 10c per mile. Witnesses summoned to testify at such inquest shall be allowed the same fees as witnesses in the Superior Court. The physician and other person required to be present at an autopsy as provided in section 245 shall be allowed a reasonable compensation, to be audited by the medical examiner and county attorney. (1957, c. 399.) (1961, c. 301.)

Sec. 253. *Preparation and distribution of record books and blanks.* The Attorney General and Secretary of State shall prepare for the use of medical examiners forms of record books, blank returns and other papers necessary to carry out sections 243 to 253. They shall be printed at the expense of the State and distributed to the several medical examiners who shall take care of the same, each entering thereon all the work and reports of his office, keeping the books open for the inspection of the county attorney and Attorney General. Whenever a medical examiner resigns or ceases to hold office, all books and papers pertaining to the office shall be delivered to his successor.

#### HOSPITALS FOR THE MENTALLY ILL (Augusta State Hospital, Bangor State Hospital) Chapter 27, Section 99

Sec. 99. *Inquest held on sudden death.* In case of the sudden death of a patient in either hospital under circumstances of reasonable suspicion, an examination and inquest shall be held as in other cases, and the superintendent or department shall cause a medical examiner to be immediately notified for that purpose.

#### FUNERAL DIRECTORS AND EMBALMERS Chapter 25, Section 204

Sec. 204. *Violent or sudden deaths, embalming fluids not injected until cause of death legally determined.* No person shall inject into any cavity or artery of the body of any person who has died from violence, by the action of chemical, thermal or electrical agents, or following abortion, or suddenly when not disabled by recognizable disease, any fluid or substance, until a legal certificate as to the cause of death from the medical examiner has been obtained, or until legal investigation has determined the cause of death, or written permission to embalm such body has been given by the medical examiner. If a criminal cause of death is alleged or suspected, no fluid or other substance shall be injected into a body until the cause of death is legally established or until an autopsy has been performed. (R.S. c. 22, sec. 196. 1955, c. 326, sec. 4.)

#### Note To Medical Examiners

Your particular attention is drawn to the provisions of Section 246 that a report of your findings in each case shall be made to the county attorney immediately and that a copy be sent to the Attorney General.





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## Department of Health and Welfare

# Current Program And Future Plans For The Diagnostic Laboratory

CHARLES H. OKEY, Ph.D.\*

Direction of the Diagnostic Laboratory has been the responsibility of the writer since early July. Time has been too short to acquire a complete perspective of the needs of the state; however, there are certain general points of view and some specific plans which are apparent and can be related at this time.

Service to the citizens of Maine through their physicians is the basic operating principle of the laboratory. These services must be accurate, promptly reported and sufficiently broad in variety to satisfy the needs of public health and medical practice in the state. Diagnostic procedures in the area of infectious disease, so rarely called for that they are not standard in the hospital laboratory, properly should be available in the Diagnostic Laboratory. It is the plan of the Diagnostic Laboratory to maintain the present scope of services but with some modifications that will bring these procedures into line with current laboratory practice and to add certain additional tests of contemporary use. Tests that are still rarer or more difficult will continue to be forwarded to the Communicable Disease Center of the U.S.P.H.S.

Historically, the public health laboratory evolved out of a need to provide objective measures of the sanitary quality of milk and water and to establish the diagnosis of communicable disease on a scientific basis. The laboratory has continued to expand along these lines by adding diagnostic procedures for each etiologic agent as they were developed and standardized. Leading in these developments for the past twenty years has been the Communicable Disease Center of the U.S.P.H.S. This group has conducted basic research that served as the foundation for diagnostic technics or has standardized tests originated elsewhere. In both instances, the Center has made these procedures available to other laboratories through publications and

through training courses at the Center and in the field. Several of the Diagnostic Laboratory personnel have had such training at the Center.

Plans also include the development of the Diagnostic Laboratory to a point at which consultation services can be provided to the laboratories of the state. This would take the form of examining cultures referred to the Laboratory for further study, requested visits to the local laboratory and specialized training for personnel sent to the Diagnostic Laboratory. Workshops would be held for training in specific tests should interest in these procedures warrant such an effort.

Syphilis serology is one of the major activities of the Laboratory, measured in terms of volume of tests. This is an area in which our procedures have been standardized by the Venereal Disease Research Laboratory, CDC. The Diagnostic Laboratory is under constant evaluation through the actual testing of serum specimens from the VDRL. It is a tribute to the serology personnel over the past several years that their performance in these evaluations has been on a very high level. Plans are now being made to develop this type of evaluation service on an intrastate basis with a view toward approving laboratories for premarital and prenatal tests. Two new serologic procedures will be available on a restricted basis in the near future. One of these is the Kolmer Reiter Protein test (KRP) which is a complement fixation test using a treponemal antigen. The second procedure will be offered as a parallel to the TPI test. This is the Fluorescent Treponemal Antibody technic (FTA) which is now being evaluated in a number of laboratories as a possible replacement for the TPI test. It is a much less cumbersome and hence less expensive test. Notice as to availability of these technics will be given when our training and evaluation phases are completed.

At the present time the Laboratory is fulfilling its

\*Director, Diagnostic Laboratory



obligation to the American Heart Association for the grant which enabled us to acquire the immunofluorescence equipment by typing streptococci using the fluorescent antibody technic. The study is controlled by the standard precipitin technic of typing. Preliminary data from laboratories using this new test indicate it will become the standard procedure for streptococcus typing.

Diagnostic mycology is being developed as a service. One of our technicians had a course in Mycology at CDC this past winter and continues her training on the job through an extension course provided by the Center.

Isolating and identifying acid fast bacilli from suspected tuberculosis cases has been complicated in recent years by the recognition of the unclassified members of the group and by the necessity for performing sensitivity tests for chemotherapeutic agents. Currently, additional tests for characterizing these unclassified organisms are being applied to cultures when indicated. It is expected that sensitivity tests will be added to the services at an early date.

With the present availability of immunofluorescence

equipment in the Laboratory we expect to apply the fluorescent antibody technic to several diagnostic areas as the tests become standardized sufficiently to be practical.

Virus diagnostic services have never been offered directly by the Laboratory; specimens for this type of examination have been submitted to the CDC. It appears that it would be feasible for us to offer these services in the Laboratory. However, considerable specialized equipment and training are necessary before this can be accomplished. We will move ahead with the other more immediate changes but with the goal of providing the service as soon as is practicable.

The Laboratory, through the Director and the staff, is prepared to maintain a closer working relationship with physicians, technicians and other users of our services. We urge each of you to let us know how our efforts may be better directed to provide more useful information to you. Through the coming months I hope to meet many of you and to discuss mutual interests and problems.

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#### ACROSS THE DESK — *Continued from page 275*

Lt. Harold R. Schumacher, MC, U. S. Navy, Portsmouth, Va., writing in the (Aug. 19) *Journal of the American Medical Association*, said some cases of the blood disease known as thrombocytopenia may be due to latent infectious mononucleosis.

Thrombocytopenia is the medical term for a reduction in blood platelets, a blood component involved in coagulation.

Lt. Schumacher described the first reported case of chronic thrombocytopenia as a complication of infectious mononucleosis.

Thrombocytopenia is a rare complication of infectious mononucleosis and in previous reported cases most patients recovered from the blood disorder in six weeks, he said. The chronic case required about six-months' treatment, he said.

#### **Elevated Cholesterol Found In Stroke Victims**

Elevated cholesterol levels have been found in persons who have suffered a stroke as a result of hardening of the cerebral arteries, three medical researchers reported recently.

Albert Heyman, M.D. and E. Harvey Estes Jr., M.D., Duke University Medical Center, Durham, N. C., and M. Dean Nefzger, Ph.D., National Research Council,

Washington, D. C., on the basis of their finding, recommended cholesterol-reducing measures for patients with this condition.

Their report is contained in the September *Archives of Neurology*, published by the American Medical Association.

The cholesterol level of 68 men who had suffered this type of stroke was compared with the cholesterol of a comparable group of men with no signs of hardening of the arteries, the authors said. The mean cholesterol level in the stroke victims was "significantly higher" than that observed in the comparison group, they said.

The development of hardening of the arteries is considered by many medical investigators to be associated with elevated cholesterol levels, they said. Although dietary restriction of fat and the administration of cholesterol-reducing agents are commonly advised in patients with hardening of the coronary arteries, they said, these measures are not as routinely prescribed for the patient with hardening of the cerebral arteries.

However, the authors said, the high level of cholesterol found in this series of stroke victims suggests the need for cholesterol-reducing measures in these patients in an attempt to prevent progression of the cerebral vascular disease and recurrent strokes.

# News, Notes and Announcements

## Announcement And Invitation

To all Physicians, including Internes and Residents, to attend the following meetings at the Lafayette Hotel in Portland.

The Annual Regional Meeting of the American College of Physicians, New England States, Quebec, and Maritime Provinces will be held in Portland, Maine, October 14, at the Lafayette Hotel. The meeting will commence at 9:45 a.m. and end at 5:30 p.m. and will include thirteen papers and one panel.

On Friday evening, October 13, there will be a dinner meeting of the New England Diabetes Association followed by a panel discussion by a group of Boston Clinicians; and on Sunday, October 15, the New England Chapter of the American Chest Physicians have arranged an all-day program.

## National Congress On Medical Quackery

The American Medical Association and the Federal Food and Drug Administration have scheduled a joint National Congress on Medical Quackery, to be held in Washington, D.C. on October 6 and 7, 1961, at the Sheraton-Park Hotel.

There will be no registration fee. There will be a luncheon on Friday for all registrants and a copy of the proceedings will be sent to all who attend. Other expenses of those who attend the meeting must be paid by the individuals themselves or by the organizations which they represent.

## SAS Offers Details of Medical Congresses

Scandinavian Airlines System is making available a comprehensive calendar of overseas medical congresses and allied events during the period October 1961-December 1962. The calendar lists all known medical events in areas served by the airline.

A brochure outlining the program offered by the American Medical Society of Vienna also may be obtained from SAS. The society holds practical courses in dermatology, syphilology, internal medicine, neurology and psychiatry. Also, obstetrics, gynecology, ophthalmology, orthopedic and traumatic surgery, otorhino-laryngology, pathology, pediatrics, radiology and surgery.

Details can be obtained from SAS offices or by writing to A. John Harrison, Secretary, Medical Travel Section, Scandinavian Airlines System, 138-02 Queens Blvd., Jamaica 35, New York.

## Department of Health and Welfare Division of Maternal and Child Health Including Services for Crippled Children

### Othopedic Clinics

Portland — Maine Medical Center  
9:00 a.m.: Oct. 9, Nov. 13, Dec. 11  
Lewiston — Central Maine General Hospital  
9:00 a.m.: Oct. 20, Nov. 17, Dec. 15  
Rumford — Community Hospital  
1:30 p.m.: Dec. 20  
Waterville — Thayer Hospital  
1:30 p.m.: Oct. 26  
Rockland — Knox County Hospital  
1:30 p.m.: Nov. 16  
Machias — Washington County Normal School  
1:30 p.m.: Oct. 11  
Presque Isle — Northern Maine Sanatorium  
9:00 a.m. and 12:30 p.m.: Nov. 8  
Houlton — Aroostook General Hospital  
9:00 a.m.: Nov. 7  
Bangor — Eastern Maine General Hospital  
1:00 p.m.: Nov. 16  
(Several will be two-session clinics)  
August — Augusta General Hospital  
1:00 p.m.: Dec. 28

### Cardiac Clinics

Portland — Maine Medical Center  
9:00 a.m.: Every Friday (Holidays Excepted)  
Bangor — Eastern Maine General Hospital  
9:00 a.m.: Oct. 13, 27, Nov. 10, 17, Dec. 8, 22

### Cleft Palate Evaluation Clinics

Portland — Maine Medical Center  
10:00 a.m.: Nov. 14

### Pediatric Clinics

Bangor — Eastern Maine General Hospital  
1:30 p.m.: Oct. 27, Nov. 17, Dec. 22  
Fort Kent — Peoples Benevolent Hospital  
10:00 a.m.: Nov. 29  
Waterville — Thayer Hospital  
1:30 p.m.: Oct. 3, Nov. 7, Dec. 5

### Clinics for Mentally Retarded Pre-School Children

Waterville — Thayer Hospital  
9:00 a.m.: Oct. 4, 18, Nov. 1, 15, 29, Dec. 6, 20

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### Adolescent Clinics

Portland — Maine Medical Center

1:00 p.m.: Oct. 25, Nov. 22, Dec. 27

### Section on Ophthalmology and Otolaryngology

The Section on Ophthalmology and Otolaryngology of the Southern Medical Association, will meet in Dallas, Texas, on November 6-9, 1961.

The program will feature Television surgical clinics on Glaucoma and Laryngectomy. Also, papers and symposiums on Corneal Diseases; Contact Lens; Retinal Detachment; Tympanoplasty; Otitis Media; Tonsillar Techniques, etc.

Dr. Trygve Gundersen of Boston, Massachusetts, will be the guest speaker.

For additional information please contact the Secretary, Dr. Albert C. Esposito, First Huntington National Bank Building, Huntington, West Virginia.

### Chest Physicians to Hold Interim Session in Denver

The American College of Chest Physicians will hold its annual Interim Session at the Brown Palace Hotel in Denver, Colorado, November 25-26, 1961.

The scientific sessions will be held on Saturday morning, November 25, and on Sunday afternoon, the 26th. The Board of Regents and Board of Governors of the College will meet on Saturday afternoon.

Subjects to be discussed will include diagnosis and treatment

of congenital and acquired cardiovascular diseases, pulmonary infections, emphysema, and pleural effusions.

A program may be obtained by writing the Executive Offices of the College at 112 East Chestnut Street, Chicago, Illinois. Murray Kornfeld is Executive Director.

### 1961 Scientific Session American Cancer Society Biltmore Hotel New York City, New York October 23-24, 1961

TOPIC: THE PHYSICIAN AND THE TOTAL CARE OF THE CANCER PATIENT

For further information write:

Professional Education Section

American Cancer Society

521 West 57 Street, New York 19, N. Y.

### American Board of Obstetrics and Gynecology

The next scheduled examination, (Part 1), written, will be held in various cities of the United States, Canada, and military centers outside the Continental United States on Friday, January 5, 1962.

Case Reports are no longer required by this Board to complete the Part 1 Examination.

In lieu thereof, all applicants and candidates for examination are required to submit a **DUPLICATE CERTIFIED TYPE-WRITTEN LIST** of patients dismissed from each hospital dur-

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ing the preceding twelve months. This applies to new applicants, reopened candidates, and candidates requesting re-examination in Part I or II Examination.

Lists of Obstetrical and Gynecological patients are to be made separately and must conform in all details to the sample format furnished upon request by the office of the Executive Secretary and Treasurer.

Candidates are no longer required to bring a duplicate list of admissions to the Part II Examination.

Current Bulletins may be obtained by writing to: Robert L. Falkner, M.D., Executive Secretary and Treasurer, 2105 Adelbert Rd., Cleveland 6, Ohio.

### **Columbia University College of Physicians and Surgeons**

Columbia University College of Physicians and Surgeons is sponsoring a three day Symposium, titled "Basic Problems in Neoplastic Disease," to be held on March 12, 13, and 14, 1962. This Symposium will commemorate the 50th Anniversary of the Institute of Cancer Research at Columbia University and the 10th Anniversary of its affiliated clinical facility, The Francis Delafield Hospital.

An outstanding group of scientists from the United States and Abroad will participate in sessions titled as follows: Nucleic Acid Structure and Synthesis; Viral and Genetic Studies; Protein Synthesis; Antibody Structure and Function. In addition, sessions devoted to clinical aspects of the biochemistry, pathological-physiology, morphology, and therapy of cancer will be held.

The Symposium is open without fee to all interested workers in this field. For details concerning the meeting, including application to attend sessions, write to the Institute

for Cancer Research, Columbia University College of Physicians and Surgeons, 630 West 168th Street, New York 32, New York.

### **Nation's Oldest Essay Contest**

The Trustees of America's oldest medical essay contest, the Caleb Fiske Prize of the Rhode Island Medical Society, announce two subjects for this year's dissertation, open to any doctor of medicine in the nation, for which a cash prize of \$500 will be awarded. The subjects chosen are: "Recent Advances in the Treatment of Malignant Disease" and "Current Status of Cardiac Surgery." An essay on either subject must be typewritten, double spaced, and should not exceed ten thousand words. Essays must be submitted by December 11th to the Secretary, Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, Rhode Island.

### **American Thoracic Society Annual Meeting**

The American Thoracic Society invites submission of abstracts of papers relating to the general field of tuberculosis and other respiratory diseases for presentation at its 57th Annual Meeting to be held in conjunction with that of the National Tuberculosis Association in Miami Beach, Florida, May 20-23, 1962. Abstracts must be in the hands of the program committee not later than January 5, 1962. Eight copies should be submitted. Each abstract should be limited to 300 words. Further information regarding the submission of abstracts may be obtained by writing: Asher Marks, M.D., chairman of the Medical Sessions Committee, American Thoracic Society, 1790 Broadway, New York 19, N. Y.

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# The Journal of the Maine Medical Association

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Brunswick, Maine, October, 1961

No. 10

## Storm Warnings For Medical Education\*

ARTHUR EBBERT, JR., M.D.\*\*

This nation's medical schools are in many respects like a fleet of sailboats maneuvering in a great body of water. To develop this simile, I will ask you to imagine a huge bay, for example Casco Bay or Penobscot, and picture on it 86 sailing yachts tacking back and forth or running before the wind. On the horizon dark and threatening storm clouds are gathering. The 86 boats represent America's medical schools. Each is somewhat different from the others, and each follows a somewhat different course; but their navigational problems are similar. The boats are all sizes from small sloops to large ketches and yawls. Three of the boats represent two-year schools, and four others are brand new, having just been launched in the past five years. In looking over this fleet, we see some large modern yawls with gleaming paint, shining brass, and all the latest electronic equipment. Others are old but well maintained, well equipped, and still very seaworthy. Some, however, are in poor condition; their paint is chipped, the hulls leaky, and the sails patched. These obviously are in need of a thorough overhaul if they are to weather the storm ahead. Of the 86, forty-five are privately owned; the others are publicly owned, principally by states. However, each school whether privately or publicly owned is dependent to a great extent upon government funds.

The crews of these boats are the faculties. Here again we see a great difference from one craft to an-

other. Some have barely enough crew members to keep the sails trimmed and the boat underway. A few have a full complement, and on several boats we see individuals fishing over the gunwale; these are the full-time research workers. The students, I would say, are the passengers. They pay a fee, but it doesn't begin to cover the cost of upkeep for the boat. They cruise for four years working under the crew, and at the end of that time they seek their fortunes elsewhere although a few stay on as members of the crew. Since the students of today are the medical profession of tomorrow, they are of utmost importance, and I shall have more to say about them later.

On cruising yachts a variety of problems arise which can be met in many different ways depending upon the type of boat, the experience of the skipper and crew, the ship's track or course, tides, currents, and weather. The same can be said of a medical school. Each school cannot do everything that every other one does. Each must set its own course; each must set its own objectives. Nevertheless, each school will be influenced by the storm ahead.

The storm warnings that I speak of are up not only from Eastport to Cape Hatteras but should be flying from Maine to Hawaii and from Alaska to Florida. The storm which is threatening our medical schools will be felt throughout the country. Its repercussions will affect not only medical education but also medical practice and patient care in every community in each of the 50 states. The coming storm is due not to a low pressure area but to an explosion — the population explosion. In the United States today, the population is growing at a tremendous rate. Although the medical

\*Presented at the 13th Annual Medical Alumni Day of the Maine Medical Center Alumni Association, Portland, May 11, 1961

\*\*Associate Dean and Assistant Professor of Medicine, Yale University School of Medicine

schools have increased their output of physicians since World War II, the increase in supply is not keeping up with the population growth.

Three major phenomena have combined to create an ever-increasing need for more physicians: (1) the rapid growth of population with greater numbers of people in the younger and older age groups which need the most medical care; (2) the increase in demand for medical service which has accompanied the high standard of living, increased urbanization, greater education of the public regarding health matters, and greater participation in health insurance plans; and (3) the increased number of doctors required to conduct research and to provide special services — e.g. heart surgery.

The population of the United States in 1960 was about 180 million. It is reliably estimated that by 1975 the population will reach 235 million — an increase of 55 million in 15 years, or an average increase of 3.5 million people per year. In 1959 there were about 235,000 doctors of medicine in the United States or about 133 doctors per 100,000 population. This ratio has shown little change since 1940. In other words, for the past 20 years the supply of doctors has been relatively constant, but now the population growth is beginning to take a sharp upswing.

In 1959 there were 6,900 medical graduates. To maintain the present physician-population ratio, it is estimated that 11,000 medical graduates a year will be needed by 1975<sup>1</sup>. Since there is a four-year lag and about a ten percent attrition rate, this means that about 12,000 first-year students should be admitted to our medical schools in 1971. Today our medical schools are admitting about 8,000 students a year. To keep pace with the population growth we must provide for an additional 4,000 students in the next ten years. This is a tremendous challenge. It will require expansion of present schools and the establishment of new schools.

A recent study by the American Medical Association and the Association of American Medical Colleges estimates that the maximum expansion of admissions to existing medical schools under ideal circumstances is about 10,000<sup>2</sup>. Thus, even if the medical schools are able to expand to capacity and to obtain adequate faculty, facilities, and qualified students in the next ten years, the United States will still be lacking about 2,000 places for first-year students or roughly the equivalent of 20 new medical schools.

One could say that this country is wealthy enough to afford to build 20 new medical schools in the next ten years. I think that is correct. The construction costs would be at least ten million dollars a school or a minimum of 20 to 30 million dollars per school if a teaching hospital is included. But these costs, as staggering as they may sound, are relatively small when compared with the money spent annually on our space program, and they are insignificant when compared with the national expenditure for tobacco and alcohol.

**We cannot hope to establish  
new schools or even to expand our  
present schools unless we are able to  
attract more men . . .**

But the building of new schools does not provide the answer; there are more difficult problems to be overcome. The first of these problems is to recruit faculty, and the second, of equal importance, is to attract qualified students.

In years past, much of the teaching in medical schools, particularly in clinical departments, was done by practicing physicians. It is now well recognized that each department in a school must have at least a nucleus of full-time teachers with volunteer or part-time faculty to supplement the program. Even today, however, the medical schools are having difficulty filling their faculty positions. About eight percent of all budgeted full-time positions are currently unfilled<sup>2</sup>. The development of increasing numbers of unfilled faculty positions is alarming to anyone concerned with medical education. We cannot hope to establish new schools or even to expand our present schools unless we are able to attract more men — both Ph.D. and M.D. — to careers in academic medicine. The importance of economic factors in discouraging young men from accepting faculty positions is obvious.

Now what of the supply of students? Just suppose we had all the schools we need and all the faculty to staff them, where would we get the students? During recent years the number of applicants for medical school has actually been decreasing<sup>3</sup>. This is particularly disturbing because it has occurred despite increasing numbers of college graduates. There is evidence that many talented young people are being drawn away from medicine to enter other professions.

Undoubtedly there are a few qualified applicants each year who are unable to gain admission, but the number of such individuals is currently very small. Some schools, particularly the well-established and well-known private schools, still have an abundance of well-qualified applicants and have no difficulty filling their classes. At other schools, the deans report increasing difficulties filling their first-year classes with acceptable students. This is particularly true of some of the state universities where admission is restricted to students from the state or from the geographical area.

To reach the goal of 12,000 new students in 1971, the number of applicants must be substantially increased. If we are to meet the challenge, it is essential that the medical schools and the medical profession as a whole actively encourage capable young men to consider a career in medicine.

Why aren't more young people considering a career in medicine? I have heard it said that this reflects a loss of prestige by the medical profession or that they



are discouraged by the threat of socialized medicine. I believe that there are other more important factors which make it increasingly difficult to attract able students. First is the high entrance requirements. For years we have been guilty of perpetuating the myth that only exceptional students of "A" standing can gain admission to medical school. This is not true. About 70% of first-year students in 1959 were in the "B" category and about 15% were "C" students<sup>2</sup>. We must maintain high standards, but at the same time we must make it clear that one does not have to be a genius with a straight "A" average to gain admission to medical school. Second is the increasing competition from other professions. The enrollment of graduate students in other science fields has increased tremendously in the past decade. There is no doubt that physics and mathematics have assumed great importance and new glamor in this age of electronics and space exploration. We have entered a period of intense competition for talent.

When one weighs a career in medicine versus some other scientific field two other factors enter the picture. There is the longer period required for a medical education and the higher cost. The individual who spends four years in graduate school getting his Ph.D. degree is assured on graduation of a well-paying position. What is waiting for the medical graduate — an internship and probably several years of residency plus two years of military service. It may be five or six years or more after medical school before the doctor has a reasonable income.

It is even more discouraging to look at the comparative costs of education<sup>4</sup>. The average educational expense, i.e. tuition and fees, not living expenses, for a medical student is about \$1,000 per year. The average arts and science graduate student pays about \$450 per year. Thus the average medical student pays about twice as much for his education. But this is not the whole story; let us look at student support in the form of scholarships and fellowships. The medical student who receives support of this type receives an average of \$500 per year or \$2,000 for his four years of school. Grants to graduate students in the natural and social sciences, however, have increased in the past few years so that the graduate student who receives financial help is getting an average of \$2,000 per year or \$8,000 for his four years of Ph.D. training.

Is it any wonder that we are having difficulty competing with other sciences for talented students. I think this is the crux of the recruitment problem. Medicine still has enormous prestige and drawing power. There are good students who cannot afford to go to medical school. We must substantially increase the funds available for scholarships. I think this will require government support. The federal government has no program of medical student scholarships comparable to the fellowship programs for other graduate students. This is an urgent need.

**It may be that the best  
place to shorten the training  
period is in the intern-residency years.**

I have given you a brief look at the storm. There are many other aspects of the problem which I have not discussed. For example, should we attempt to entice more women into medicine? This has been done in other countries. Perhaps the White House has already given us a hint of things to come. Women make good medical students, and this country has produced a number of outstanding women doctors some of whom have raised families while pursuing their professional careers. I think in many cases, however, problems arise from the conflicts between family responsibilities and the career. This presents a dilemma which I shall not attempt to resolve.

Another consideration in preparing for the storm is the curriculum. Methods of teaching and course content have changed, but in spite of the tremendous increase in medical knowledge, there has been little change in the traditional curriculum. How does one introduce new courses, medical genetics for example, into an already overburdened schedule? One medical school already has adopted a five-year course. Other schools are endeavoring to shorten the training period by combining the premedical course with the first year or two of medical school. Drastic changes in the medical curriculum are needed to enable students to learn more in less time, but as one dean has remarked, trying to change the curriculum is like trying to move a graveyard.

It may be that the best place to shorten the training period is in the intern-residency years. I believe that we have overextended the period of required residency training in many of the specialties. Several of the American Boards in the surgical subspecialties have recently added a year to their requirements. This is unrealistic. These surgeons should have used the knife instead of merely grafting. In adapting to the increased knowledge and training required, the specialty boards must examine the total program and eliminate those aspects which are no longer necessary. Serious efforts must be made to shorten these training periods. If this is not done, some specialty boards will soon be faced with the prospect of decreasing numbers of candidates.

The coming storm is a threat not only to medical education; it is a threat to our entire profession. It is quite possible that the expansion of medical education over the next ten or fifteen years will not be sufficient to maintain our present doctor-patient ratio. If this happens, will the medical profession be prepared to meet the challenge? Most doctors are overworked, and yet patients want more and more of the doctors' time. We need new methods of providing patient care. I think it is extremely important to ask ourselves, can medical service be better organized to enable the prac-

ting doctor to use his time and energy more efficiently? During the past two decades there has been a tremendous amount of research in human biology with astounding results. We must also be willing to experiment in new approaches to medical education and medical care.

I have raised more questions than I have answered; but such problems are not new, and I have confidence that our profession will sail through the storm with flying colors. The following quotation is appropriate: "Unrest and change are the order of the day, and it may be taken as a good sign that the medical profession is bestirring itself about many problems, one of the most important of which relates to the future of our medical schools." This is from an address given by William Osler almost 50 years ago<sup>5</sup>. These words are as true today as they were at that time.

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### No Finer Opportunity

Early in the Kefauver hearings, the subcommittee invited testimony from the Arthritis and Rheumatism Foundation. There followed appalling disclosures that some \$250 million are spent each year by arthritics on useless quack cures . . . Considering the close attention of the press and public to these proceedings, never had a Congressional inquiry been handed a finer opportunity to launch a public crusade and mobilize national resources to stamp out criminal operatives in the health field. And what happened? Nothing. The investigators were far more interested in getting back to the assault on manufacturers of cortisone and its derivatives which have actually restored millions of cripples and potential cripples to useful, productive life — **Report to the Nation:** Austin Smith, M.D., President, Pharmaceutical Manufacturers Association.



# Cancer Control By Early Detection

NORMAN LENSON, M.D.\*

The multi-faceted enigma of cancer attested to by the myriads of untimely graves demands the challenge of solution. Ultimate control through research, and temporary control by early detection remain the two avenues of promise. The former will be tomorrow; the latter should have been yesterday. What then of today? Formalized cancer detection centers are the order.

It is estimated that in 1961 the American cancer incidence will be 510,000 with a concomitant mortality of 270,000. Of this latter number 85,000 deaths will be needless and can be prevented<sup>1</sup>. Added to the current salvage rate the net result would be an annual survival of 255,000 Americans.

Commencing 24 years ago with the first formal cancer detection center at the New York Infirmary founded by Dr. Elise L'Esperance the number of specialized centers has increased to exceed 200. Their case findings and productivity are a matter of documented record. Cancer detection centers are directed toward the accomplishment of common objectives:

1. Detection of pre-symptomatic cancer.
2. Detection of pre-cancerous lesions.
3. Reduction of cancer incidence.
4. Reduction of cancer mortality.
5. Reduction of cancer morbidity.
6. Prolongation of economic productivity.
7. Incidental discovery of constitutional disease.
8. Encouragement of the habit of periodic health examinations.
9. Lay education of the benefits offered by the practice of preventive medicine.
10. Evaluation of newer cancer detection techniques.
11. Collection of statistical data for scientific analysis.

To best accomplish these objectives the examination should be systematized for the benefit of the examinee's time and comfort. Further, the cost of examination should be within the financial capacity of all potential examinees. Finally, to avoid fatigue, minimize false positives and to maintain diagnostic acumen the medical examiner should limit the number of daily examinations.

The techniques and essentials for a good cancer detection examination have been adequately reported by competent examiners.

There are, however, essential historical facts which should alert the examiner to a high degree of cancer suspicion.

## A. SKIN:

1. Junctional nevi located on hands, feet, genitalia; and probably face and sites of chronic irritation.
2. Excessive ultra-violet radiation, particularly of blond, thin and dry skin individuals in exposed occupations as farmers, fishermen, sailors, etc.

3. Ionizing radiation administered years previously most often for some benign skin condition.
4. Thermal burns, scars or cutaneous fistulae of long standing and incomplete healing.
5. Occupation involving exposure to soot, arsenic, tar, paraffin and petroleum products, especially creosote oil.
6. Iatrogenic, as in the long standing administration of Fowler's solution.

## B. HEAD and NECK:

1. Age: Increase in incidence of cancer after 45 in male and 50 in female.
2. Sex: Thyroid adenomas have a predilection for the female.
3. Smoking: Average smoker has one and one-half times, and heavy smoker three times the chance of developing oral cancers compared to the non-smoker<sup>2</sup>. One study reports cancers of mouth, tongue and larynx to be five times as high for smokers as non-smokers<sup>1</sup>.
4. Alcohol: Daily consumption of six or more ounces of whiskey or its equivalent is associated with ten times as great a chance for the development of oral cancer<sup>2</sup>.
5. Syphilis: The incidence of tongue cancer in syphilitics may be increased by as much as 20%<sup>3</sup>.
6. Ultra-violet radiation: Cancer of the lip is more frequently found following chronic exposure to solar radiation.
7. X-ray radiation: Thyroid cancer appears increased by prior radiation directly or indirectly<sup>4</sup>.

## C. BREAST:

1. Age: Increase noted in breast cancer after 30.
2. Heredity: Positive family history of breast cancer increases risk.
3. Marital status: Higher incidence among single than married females.
4. Pregnancies: Proportionate decrease of risk with number of pregnancies<sup>5</sup>.
5. Nursing: Risk decreases proportionately with number and duration of nursing<sup>6</sup>.
6. Diabetes mellitus: Increases risk.

## D. LUNG:

1. Age: Incidence increases after 45 in male and 50 in female.
2. Sex: Lung cancer is approximately 6 times as frequent in males as in females.
3. Residence: Statistics indicate greater risk in presence of air pollution factors.
4. Occupation: Risk increased in occupations necessitating exposure to arsenic, asbestos, beryllium, chromates, coal gas, nickel, petroleum products and radioactive ores.
5. Smoking: Epidermoid carcinoma of the lung is associated almost completely with smokers. Heavy cigarette smoking is reported to increase the cancer risk as much as 70 times<sup>7</sup> and regular cigarette smokers 10 times.<sup>1</sup>

## E. STOMACH:

1. Age: Risk increases in male beyond age of 45 and female 50.
2. Heredity: Risk appears increased with strong inherited tendency.

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## F. RECTUM-COLON:

1. Age: Cancer increases in both sexes after 40.
2. Heredity: Diffuse polyposis as differentiated from solitary adenoma is genetically determined.
3. Medical History:
  - a. Cancer (gastro-intestinal tract)
  - b. Polyp
  - c. Ulcerative colitis

## G. UTERUS:

The discussion is limited to carcinoma of the cervix. Endometrial carcinoma characteristically occurs in a female with menstrual abnormalities, infertility, obesity, diabetes mellitus<sup>8</sup> and shows a greater risk past age 50.

1. Age: Incidence increases after 30.
2. Religion: Among Jewish women epidermoid carcinoma of the cervix is 5 to 10 times less common, and the explanation tendered is because of early circumcision of sexual partners.
3. Color: Incidence among negro females is twice that of white<sup>1</sup>.
4. First Coitus: Coitus occurring before age 20 increases risk, the later the first coitus the less the incidence.
5. Number of pregnancies: Are thought by some investigators to increase the risk.

There are other sites of potential cancer involvement to which the examiner may be alerted by a suggestive history. The rarity of penile carcinoma occurring when circumcision has been performed shortly following birth is an accepted fact. Cryptorchid and atrophic testes are 50 times more prone to malignancy.<sup>9</sup> Aniline dye workers have a higher incidence of bladder tumors. Significant prior radiation increases leukemia-lymphoma risk,<sup>4</sup> as does exposure to toxic chemicals, particularly benzene.

Evidence may be elicited either by physical or laboratory examination suggestive of increased neoplastic risk. There is admittedly no all-inclusive definition of the term "pre-cancer"; however, the following lesions have been associated to some degree with ensuing cancer:

## A. EYE:

1. Melanosis, conjunctiva

## B. SKIN:

1. Chronic ulceration
  - a. Burns    b. Fistula    c. Sinus
2. Keratosis
  - a. Arsenical    b. Chemical    c. Senile    d. Other
3. Nevus
  - a. Hands    b. Feet    c. Genitalia    d. ? Face
  - e. ? Sites of chronic irritation
4. Xeroderma pigmentosum

## C. HEAD and NECK:

1. Leukoplakia (leukokeratosis)
  - a. Lips    b. Tongue    c. Cheeks
2. Thyroid adenoma
3. Laryngeal pachydermia
4. ? Laryngeal polyp

## D. BREAST:

1. Ductal papilloma with atypism

## E. GASTRO-INTESTINAL TRACT:

1. Gastritis
  - a. Atrophic    b. Hypertrophic    c. Polypoid

## 2. Polyp

- a. Gastric    b. Colonic    c. Rectal

## 3. ? Gastric ulcer

## 4. Ulcerative colitis

## 5. Anal leukoplakia

## F. GALL BLADDER:

1. Polyps
2. ? Cholelithiasis

## G. GENITO-URINARY:

1. Leukoplakia bladder

## H. MALE GENITAL:

1. Cryptorchidism
2. ? Atrophic testes

## I. UTERUS:

1. Cervix
  - a. Leukoplakia    b. ? Cervicitis
2. Fundus
  - a. Endometrial polyps    b. Cystic hyperplasia
  - c. Adenomatous hyperplasia

## J. FEMALE GENITAL:

1. Leukoplakia, vulva
2. ? Senile vaginitis
3. Kraurosis vulvae

Papilloma of the urinary bladder, and erythroplasia and Bowen's disease of the skin are classified in some instances as precancerous lesions, but they are in reality "in situ" or Grade I carcinomas. Lupus vulgaris, lupus erythematosus, epidermal inclusion cyst, sebaceous cyst, seborrheic keratosis, and lymphopathia venereum of the skin have been deemed pre-cancerous because of the occasional association of supervening cancer, but this is a rare occurrence. The relation of chronic cystic mastitis to cancer of the female breast is as yet not defined.

Laboratory indications suggestive of early or potential malignancy are few. Anemia caused by pre-cancerous lesion may indirectly avert the onset of malignancy; pernicious anemia and achlorhydria have a five times greater incidence of gastric cancer.<sup>10</sup>

"In situ" carcinomas are localized cancers offering opportunities for early detection prior to invasion. It appears, fortunately, that this opportunity is enhanced by the passage of years preceding the "break through" of "in situ" carcinomas to invasive cancer. "In situ" carcinoma has been recognized in the (1) skin, (2) lip, (3) oral cavity including pharynx, (4) esophagus, (5) stomach, (6) anus, (7) breast, (8) larynx, (9) bronchus, (10) vulva and (11) vagina.

Cancer control through early detection is not a question of theoretical probability, but a matter of practical necessity. The removal of junctional nevi at the sites of predilection of melanoma has prevented countless malignancies. Gross visual field examination has been productive of early brain cancer. Ninety-six per cent occurring in the head and neck region (excluding skin) can be seen or felt early.<sup>11</sup> It is estimated that 90% of all breast tumors are discovered by the female patient, and it is reasonable to conclude that these tumors would be palpated earlier by the experienced hand. The use of "deep cough" pulmonary cytology offers an opportunity for early detection of lung cancers. It is



reported that 90% of lesions were diagnosed using this technique.<sup>12</sup> The time honored technique of chest X-ray has been productive of early lung cancer. In a series involving 270,000 routine chest X-rays, 33% of the pre-symptomatic treated malignancies survived five years, and of an equal number of symptomatic cases there were no three-year survivals.<sup>13</sup> The proctosigmoidoscope has proven invaluable in the detection of armamentarium. Ninety per cent of adenomas and 64.5% of carcinomas of the colon-rectal group are within reach of the examining scope. In addition another 6% of high lying adenomas or malignancies may be suspected by the blood and mucous visualized on instrumentation.<sup>14</sup> Routine cervical cytology promises to eradicate cervical carcinoma, and will materially reduce uterine cancers, since 75% of these malignancies occur in the cervix.

The value of cancer detection examinations effectively performed is not to be denied. The incidence of cancer, age corrected, may show as much as a 77% increase over the anticipated national incidence. The cancer yield may approach one for every 33 examinees. The yield is increased three-fold in the symptomatic patient as contrasted to the pre-symptomatic. Pre-cancerous lesions may be found in 50% or more of all examinees.<sup>15</sup>

The importance of yearly examinations lies in the fact that from 53% to 61% of cancers present are determined on repeat examination.

The fait accompli becomes evident upon review of the 5-year survival rates of the Minnesota Cancer Detection Center:<sup>15</sup>

Site	Symptomatic	Pre-symptomatic
Colon	25%	75%
Rectum	25%	66%
Stomach	14%	50%

and the Philadelphia Cancer Detection Center:

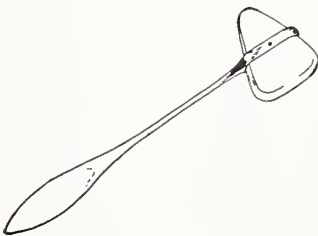
Site	Phil. Series	National Average
Breast	60%	46%
Rectum	75%	25%
Uterus	83%	55%

CONCLUSION

Cancer control by early detection is an effective and proven technique capable of materially reducing cancer mortality. Formalized cancer detection centers offer a unique opportunity for rapport with the "well" population, and the discovery of pre-symptomatic cancer, pre-cancer and constitutional disease.

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# Cancer Of The Larynx

## A Study Of 130 Cases

GEORGE O. CUMMINGS, JR., M.D.\* and GEORGE O. CUMMINGS, SR., M.D.\*\*

This is a study of 130 cases of cancer of the larynx seen and treated between 1930 and 1960. It is divided into three ten-year periods.

### 1930 - 1940

Twenty-three patients presented themselves for treatment in this period.

The four who were operated on by laryngectomy, living 23<sup>+</sup>, 18, 15, and two and one-half years.

The surgical problems were infection, anesthesia, supportive treatment and technique. The laryngectomies were done through a mid-line incision, the hyoid bone was not cut, the strap muscles were left as far as possible to aid closure, pressure pads were used on either side of the incision, drainage was from lateral stab wounds, and the tracheostome was made at the lower end of the incision.

The first two patients were operated on by a technique devised by New<sup>1</sup> to obviate infection. First a small opening was made in the trachea and left open for two days, the larynx was then partially skeletonized, — this was done in the hope that the wound would accustom itself to bronchial secretions — two days later the larynx was removed.

The next patient was operated on by a narrow field method, suggested by Crow and Broyles<sup>2</sup>, in which the perichondrium of the thyroid cartilage with the overlying muscles were reflected in an endeavor to make a better closure after the larynx was removed. This patient lived 15 years, but the method was not again used.

One patient with a small lesion on the fold between the epiglottis and arytenoid was treated by radon seeds, living 4<sup>+</sup> years and dying of coronary artery disease.

Another patient, who had a small lesion on the epiglottis, was successfully treated by deep x-ray therapy, living 10<sup>+</sup> years and dying of a circulatory failure.

Of the remaining 17 patients, seven had hopelessly extensive lesions, two refused operative treatment, one was in too poor general physical condition, and six were palliated by deep x-ray therapy, — two of them would be operated on today. One woman had a lymphosarcoma<sup>3</sup>, whose first manifestation was in her larynx which was treated with deep x-ray therapy. She subsequently had multiple metastases, finally dying of a

lymphosarcomatous lesion in a coronary artery. At postmortem her larynx was normal.

### 1940 - 1950

Thirty-seven patients presented themselves for treatment in this period.

Twelve patients were operated on by laryngectomy, living 17<sup>+</sup>, 17<sup>+</sup>, 14<sup>+</sup>, 13<sup>+</sup>, 13<sup>+</sup>, 12<sup>+</sup>, 12<sup>+</sup>, 11<sup>+</sup>, 11<sup>+</sup>, 7<sup>+</sup>, 4<sup>+</sup>, years. One died in seven months.

The mid-line incision was replaced by an inverted T below which a circular opening was made for a tracheostome. The mid-section of the hyoid bone was removed to give a wider field. Antibiotics gave a greater sense of security from infection, anesthesia had improved, and supportive measures were better understood.

Two patients had fibrosarcomas; one of whom is living 12<sup>+</sup> years. Three years after his laryngectomy he had a neck dissection. The suspected node proved to be inflammatory. Nine years later he had a recurrence in an arm. The other<sup>4</sup> had a polyp filling most of her larynx, which must have been present for years. This showed a fibro-sarcomatous change on its distal end. The true cords beneath were hyperkeratotic and eventually developed a grade 1, epidermoid carcinoma for which her larynx was removed.

One 21-year-old woman had a grade 1, carcinoma involving her entire right cord and arytenoid which was fixed. She subsequently bore three children.

Another patient, whose original diseased area was said to have been on one cord, was "hy-frecated" elsewhere. He was subsequently laryngoscoped on four different occasions without exposing a lesion or getting a positive biopsy. His thyroid cartilage widened. A laryngectomy was done, but the disease could not be entirely removed. He had a grade 11, epidermoid carcinoma. He lived four months after his larynx was removed. When a laryngeal carcinoma was suspected after the first one or two negative laryngoscopies, a laryngo-fissure might have secured material for a biopsy.

Two of this group of patients developed excellent and two fair esophageal voices. One had an excellent voice with a reed type artificial larynx and another an adequate voice with a buzzer type larynx.

Six patients had laryngofissures living 20<sup>+</sup>, 19<sup>+</sup>, 16<sup>+</sup>, 14<sup>+</sup>, five and four years. Two had subsequent laryngectomies. One living 16<sup>+</sup> years while the other,

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whose original lesion was in the mid-cord, died of his disease in four years.

Of the remaining 21 patients; in three instances operation was not advised, four refused treatment, living from two months to a year, eleven had extensive lesions, two of whom would have been operated on today. Three were successfully treated with deep x-ray therapy, one of whom had a subglottic, grade III, epidermoid carcinoma, dying five years later from coronary artery disease, one had a grade I, epidermoid carcinoma developing on the end of a long stalk, living 10<sup>+</sup> years, while the other had a small lesion on the corner of her epiglottis, living 12<sup>+</sup> years. Eleven received palliative treatment with deep x-ray therapy and lived three to 18 months.

#### 1950 - 1960

Seventy patients presented themselves for treatment in this period.

The missionary work of the first 20 years had increased the numbers of patients coming for treatment. Fewer patients when seen had advanced disease. Improved surgical technique coupled with excellent anesthesia, a better understanding of supportive treatment and the use of antibiotics made more extensive surgical procedures possible. Radical neck dissections were not only used as salvage procedures but were combined with laryngectomies. The hyoid bone was completely removed at laryngectomies giving better exposure and making less tension when the pharyngeal mucosa was brought together. The inverted "T" incision with the round opening below for a tracheostome was still used as was a curvalinea incision.

Thirty-nine patients had laryngectomies. In the entire 30 year period there were 55 laryngectomies with no operative deaths. Two patients had post-operative fistulae which drained for some weeks, eventually closing and two had scar tissue narrowing of their tracheostomes which were corrected by plastic procedures. Seventeen patients had laryngectomies alone. Ten still living more than five years, five still living a less number of years. Two died of their disease because they failed to report in time for salvage operations.

Twelve patients had neck dissections at the time of laryngectomy either because of the presence of palpable nodes or on the side of an extensive extrinsic lesion. Four died of their disease, two in 1 year, one in 1½ years and one in 2 years, one of whom had a neck dissection on the opposite side as a second procedure. In another patient a portion of the stomach was used as a graft to fill the gap in the lower pharynx and upper esophagus made to remove the diseased area at the laryngectomy. An artery in the portion of the stomach was spliced to the stump of the thyroid artery. This newly made esophagus functioned well. Unfortunately some months later pulmonary metastasis occurred<sup>5</sup>. The remaining seven patients are still living 7<sup>+</sup>, 5<sup>+</sup>, 5<sup>+</sup>, 4<sup>+</sup>, 3<sup>+</sup>, 2<sup>+</sup>, and 1<sup>+</sup> years.

In the 30 year period 16 neck dissections were performed, nine patients had salvage procedures. One had a neck dissection after a laryngectomy, because of metastatic nodes, two had neck dissections following deep x-ray therapy before or after laryngectomies, five had laryngectomies following laryngofissures or deep x-ray therapy. The remaining patient had a neck dissection combined with a pharyngo-laryngectomy.

Eleven patients were operated on by laryngo-fissure. Laryngo-fissure is an operation which splits the thyroid cartilage, opens the larynx and is a procedure designed to remove a small growth on a vocal cord or extending a short distance around the anterior commissure, after which the thyroid cartilage is brought together again. Patients for such procedures should be carefully selected. When the results are successful the voice is good but hoarse and the throat feels normal. These types of cases could probably be as efficiently handled by deep x-ray therapy after which, however, the voice is brassy and the throat is dry. Patients who have had laryngo-fissure or deep x-ray therapy should be followed carefully and a laryngectomy performed if there is a recurrence.

The attempt, from kindness to the patient, to do a lesser operation and preserve the voice may lead to difficulties.

In six instances after laryngo-fissure patients lived 6<sup>+</sup>, 5<sup>+</sup>, 4<sup>+</sup>, 2<sup>+</sup>, and 1<sup>+</sup> years. One patient died within the year from multiple metastasis. It is possible that the laryngeal disease was metastatic. Four patients underwent additional surgery. In one instance the pathologist felt that the growth had not been removed with safe margins and a laryngectomy was performed the next day. The patient is living 5<sup>+</sup> years. The laryngectomy specimen showed a grade I, epidermoid carcinoma on both cords separated by a normal area about the commissure. One lesion was below the cord. One patient had a laryngo-fissure followed one and one-half years later by a laryngectomy and ten months later by a neck dissection. His longevity after his fissure was three years. Was too much attempted by the fissure? One patient had a fissure followed by deep x-ray therapy and five years later by a laryngectomy. He died 12 years after from cirrhosis of the liver and cardiac insufficiency. The remaining patient is discussed under "deep x-ray therapy."

In the 30 year period 17 patients had laryngo-fissures. In ten instances the procedures were successful. Six patients required additional surgery, and one died of multiple metastasis within the year.

Eight patients were treated by hemi-laryngectomies.

In two instances the epiglottis and a portion of one arytenoepiglottic fold were removed above the level of the false cords. One patient died of a cerebral accident a few days after surgery, the other is still living 2<sup>+</sup> years.

One patient, whose disease crossed the anterior commissure and involved the anterior portions of both cords, had the anterior one-third of the thyroid cartilage

and the anterior one-third of both cords removed. He has a hoarse voice and is living 7+ years.

The surgical procedures in the remaining five cases were extensions of the laryngo-fissure by including the arytenoid on the side of the disease and or by removing a section of the thyroid cartilage. One patient had a subsequent tracheotomy and died of his disease in one and one-half years, another had a laryngectomy and is still living 2+ years, while the others are still living 5+, 4+ and 4+ years.

Seventeen patients were treated by deep x-ray therapy.

In seven patients the lesion was small and success seemed assured. They lived 6+, 3+, 3, 3, 2 years, one dying of a cerebral accident in eight months. The patients living 3, 3, and 2 years all died of coronary artery disease. Most of these cases with small lesions could have been as well handled by laryngo-fissure. After deep x-ray therapy, in such cases, the voice becomes brassy and the throat dry.

In the 30 year period nine patients have been successfully treated by deep x-ray therapy.

Four patients had large inoperable growths in which deep x-ray therapy was used in palliation. This may have given the patient and family some forlorn hope. The subsequent tissue reaction made tracheotomies necessary.

In the 30 year period none of the 21 patients thought at the time to have inoperable lesions were successfully treated by deep x-ray therapy, nor were two post laryngectomy patients, who developed metastatic nodes. The latter are much more efficiently treated by neck dissection.

Five patients had surgical procedures following deep x-ray therapy. In all instances post-operative healing was good. One patient had a laryngo-fissure, followed by deep x-ray therapy, which caused a chondritis, necessitating a laryngectomy and is living 2+ years. One patient had a laryngectomy followed by deep x-ray treatment and a neck dissection and lived four years. One patient originally had a carcinoma of the thyroid followed by deep x-ray treatment, the disease invaded the subglottic region, necessitating a laryngectomy and later a neck dissection, and is still living 2+ years. Another patient had deep x-ray therapy following a laryngectomy and then had a neck dissection and lived four years. One patient following a laryngectomy had a deep x-ray treatment followed by large metastasis which he failed to report and died of his disease in one and one-half years. The remaining patient is discussed under laryngo-fissure.

Four patients had pharyngotomies. These are included with the cases of cancer of the larynx as they involved the epiglottis, the aryepiglottic folds or the post cricoid region.

Three patients are still living 6+, 6+, and 1+ years. The remaining patient had a pharyngo-laryngectomy with a neck dissection and lived nine months.

There were two patients who had their diseased areas removed at biopsy. One still living 7+ years and the other 1+ years.

In the 30 year period 19 patients were female, 111 male.

One patient between 20 and 30 years, one between 30 and 40, 20 between 40 and 50, 49 between 50 and 60, 39 between 60 and 70, 25 between 70 and 80 and five over 80.

There were 120 epidermoid carcinomas, one transitional cell, 48 grade I, 56 grade II, 15 grade III, one thyro-adenoma carcinoma, one basal cell and five of undetermined grade. One lymphosarcoma and two fibrosarcomas. Of the grade III epidermoid carcinomas six patients so afflicted died within the year.

#### MORALE

The morale of those who had laryngectomies was good, except for an early patient who spoke only Russian, who developed metastatic nodes and committed suicide.

#### REHABILITATION

Most of the younger patients who have laryngectomies returned to useful occupations, housewives, truck drivers, mill operators, ship builders, electric welders, wood workers, clerks, bookkeepers, accountants, salesmen and business managers.

#### SPEECH

Post-laryngectomy speech is difficult to learn. It requires practice and patience. It is unfortunate that more patients do not learn to talk well. The younger patients with dynamic personalities and the will to succeed, do the best. The reed type Western Electric artificial larynx is the easiest to learn to use but it takes time and practice. Two patients used it excellently and one well. There are at least three electric buzzer types of artificial larynx; one patient learned to use one well. All patients have some whisper. Two patients had excellent whispers. The esophageal voice takes no longer to learn than the ability to use any artificial larynx well. One of us learned as a boy to speak with an esophageal voice to some degree. In the 1950-1960 period one patient learned to use it excellently, four did very well, 10 had fair voices and 10 poor voices.

#### SYMPTOMS

Hoarseness was the presenting symptom in those patients whose disease was "intrinsic" (within the cartilaginous box of the larynx.) Pain in the ear was occasionally referred from such lesions as well as from "extrinsic" growths (outside the cartilaginous box of the larynx.) These latter patients complained of "feeling something in their throats" — one patient had his tonsils removed elsewhere because of the sensation.

*Continued on Page 304*



# Protection Of Teeth In Contact Sports

CLARENCE E. MCINTIRE, D.M.D.

**To be effective a mouth piece must be fitted to the individual's mouth, afford adequate protection, stay in place comfortably and securely, and allow mouth breathing and speech.**

To receive a call that a young person has fractured his anterior teeth, is to me one of the saddest moments in the practice of dentistry. This often happens as a result of contact sports. A fractured tooth is permanent. It will not heal as will a broken arm or leg. The treatment is not only of an emergency nature but must continue for the rest of the person's life.

These accidents can be prevented. In the 1954-55 Handbook of the National Federation of High School Athletic Associations, football injuries are listed as follows: "Face and dental 53.9%; Knee 19.6%; Shoulder 13.7%; Head 9.7%; and Pelvic 3.7%. It is imperative that more mouth protection be provided."<sup>1</sup>

In a 1954 article by Watts, Woolard and Singer, they state, "Schools spend on an average of \$90 to \$120 annually to outfit each football player with protective clothing, which affords him protection only for those regions in which 48% of the injuries occur."<sup>2</sup> A comfortable, well-fitting mouth piece is a relatively inexpensive piece of equipment and should become standard equipment.

Some coaches seem to be reluctant to adopt a mouth piece, probably because they are confusing it with the old-fashioned type which had to be held between the teeth and removed to call signals or to speak. Coaches who have tried modern mouth pieces are most enthusiastic. To be effective a mouth piece must be fitted to the individual's mouth, afford adequate protection, stay in place comfortably and securely, and allow mouth breathing and speech. Young men and women will wear a comfortable, well fitting mouth piece.<sup>3</sup>

A survey conducted by the Security Life and Accident Co. demonstrates that the inexperienced sports participant suffers the largest percent of injuries and needs a mouth piece as much as any other piece of equipment.<sup>4</sup>

The purpose of this article is to present a technique for mouth guard fabrication which embraces a minimum of professional skill and specialized equipment. This technique incorporates the dentist into athletic programs where he can emphasize the need for dental care and the maintenance of good dental health to the youth, and through him to the parents. Secondly, it provides mouth protection to the youth at a price that is negligible both

to the dentist as well as any group, agency, or individual sponsoring such a product.<sup>5</sup>

The utilization of a smooth, moderately resilient and individually adapted material will protect the teeth and soft tissues, cushion the jaws against concussion, lessen the chance of cerebral trauma, provide comfort to the athlete and possess sufficient retention to avoid displacement or aspiration. In addition such a material lends itself well to fabrication by inexperienced hands. It is relatively inexpensive and employs a minimum of specialized equipment and professional skill. It enables athletic trainers, fraternities, various youth organizations, civic groups, and the athlete himself to work with the dentist in providing mass coverage.<sup>6</sup>

The University of North Carolina has been using these mouth guards for over five years, and it is now considered standard equipment for the varsity and freshmen squads. The same mouth piece has been used by the National Professional Football League. Two years ago several Hackensack, New Jersey dentists, under the direction of the head of the Physical Education Department, undertook a program of supplying the high school football players with mouth protectors. The record in Hackensack of *no fractured teeth* speaks for itself.

## MATERIALS NECESSARY FOR CONSTRUCTION OF MOUTH GUARD

1. Full arch elastic impression.
2. Stone cast as furnished by a dentist
3. Liquid latex rubber. (The material used here is the "Liquid Latex X-L Rubber" — manufactured by Plastic Arts Studios, 3403 South Madison, Muncie, Indiana. Cost approximately \$12/gallon)
4. Small paint brush
5. Curing oven — several suggested types
  - a. Dental Low Heat Oven — type used for drying models
  - b. Home electric stove oven — lowest heat
  - c. Electric cooker — lowest heat
  - d. Heat cradle with eight 60 W bulbs
  - e. Home made box with light sockets attached to the inside, similar to a heat cradle. (This

can be made in the high school manual training class)

6. A blue or pink rubber similar to the above can be used for identification number or letter.

#### DIRECTIONS FOR CURING MATERIAL

The first application should be allowed to cure for approximately 10 to 20 minutes at 130 to 140 degrees Fahrenheit. The material will change color from a pure white to an amber color. Each subsequent layer will change color in the same manner. The final curing process, after the desired contour and thickness have been obtained, should take at least 72 hours at the same temperature. The material may continue to darken on exposure to the atmosphere. This only tends to strengthen the material.

#### PROCEDURE FOR CONSTRUCTION

The entire area of the guard is covered with a coat of latex and is cured. A second coat is applied and cured. These first two coats are cured with the model lying flat in the oven. The initial curing of the first and second coats with the model lying flat helps to confine the bulk of the material to the sides of the arch. The third coat is concentrated to square the corners and make the biting surface flat. When this coat of material is cured the model should be suspended by a hook. Thus the material will not have a tendency to flow up on the sides of the model and the contour of the biting surface will be maintained by gravity. Three coats of latex rubber are usually sufficient. Where several teeth have been removed it may be necessary to add additional layers. The individual coats of material should not be

more than 1/8 of an inch thick to facilitate curing. Each coat will shrink nearly 1/3 to 1/2 its bulk. If the rubber is applied too thick it may have a tendency to remain raw in the center and weaken the finished guard.

When the correct contour and thickness have been obtained the player's jersey number or some other identification can be added by using a different colored rubber.

When the final curing period is over (72 hours) the mouth guard may be peeled from the model. The model will not be altered by this process, and should be retained for future use. Excess rubber at the border of the guard may be trimmed with sharp scissors. The guard should be washed before each insertion into the mouth. This done daily will not affect the consistency of the rubber. When not in use it can be kept in the locker shelf with no harm.

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14 Lawn Avenue, Portland, Maine

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### CANCER OF THE LARYNX, A STUDY OF 130 CASES — *Continued from Page 302*

Difficulty or painful swallowing and spitting of blood tinged sputum occurred in advanced cases.

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Dr. Cummings, Jr., 47 Deering Street, Portland  
Dr. Cummings, Sr., 47 Deering Street, Portland



# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **So Pass The Detergents, Mother**

'Detergent food' can help clean your teeth, according to Philip L. White, Sc.D., secretary of the Council on Foods and Nutrition of the American Medical Association.

The "detergents" are crisp, crunchy low-carbohydrate foods such as celery, carrot strips and radishes, he explained in the October *Today's Health* magazine.

"Dentists and physicians are quite concerned with sticky, high-carbohydrate foods that adhere to the teeth," he said. "Such foods are quickly acted upon by the bacteria commonly found in the mouth, and the acids produced during this bacterial digestion can etch the enamel and thus produce a site for decay to begin."

Chewing "detergent food" can do much to remove sticky foods from teeth, he said.

### **Electric Shock Restores Normal Heart Beat**

An externally applied electric shock has proved effective in restoring to normal a dangerously rapid heart beat, three Boston physicians reported recently.

In the September 30 *Journal of the American Medical Association*, Drs. Sidney Alexander, Robert Kleiger and Bernard Lown said the electric shock method was used in treating a 59-year-old man when he failed to respond to drugs.

Two episodes, in which the patient's heart rate reached 190 and 200 beats per minute, were corrected by electric shocks of 250 and 350 volts respectively, they said. The shocks were administered during general anesthesia, they said. A normal heart beat could be maintained after the second shock treatment with drugs, they said.

The method was termed "a promising new approach" to treatment of such conditions in an accompanying

Journal editorial. It has the advantages of being easily administered, producing immediate results, causing no lasting depression of heart function and no serious after effects, the editorial said.

Previous use of electric shock generally has been as an emergency measure for other types of heart disorders, the Boston physicians said. The case described in the *Journal* is believed to be the first report of the method being used for paroxysmal ventricular tachycardia.

The most common cause of this type of abnormal heart beat is coronary disease and it frequently occurs within a few days after a heart attack. The condition is serious because it can lead to an invariably fatal heart action. However, the majority of cases can be controlled with drugs, the authors pointed out.

The development of closed-chest heart massage makes possible wider use of electric shock treatment for such a condition when drugs are not effective, they added. The rhythmic compression of the heart area of the chest can maintain the victim's circulation long enough to obtain the necessary equipment for electric shock therapy, they said.

### **Disaster Medical Care Meeting Set For Chicago**

Some 350 civil defense officials, physicians and other members of the health profession from throughout the country are expected to attend the 12th County Medical Societies Conference on Disaster Medical Care in Chicago, November 4-5.

The meeting is sponsored by the American Medical Association's Council on National Security.

Among the featured speakers will be Frank B. Ellis, Washington, D. C., newly appointed director of the

Office of Emergency Planning, who has the responsibility for planning for the continuity of state and local governments' defense programs, the natural disaster relief program, the defense mobilization program, and the strategic and critical materials stock-piling programs.

The conference will include symposiums on "The County Medical Society and Disaster Medical Care" and "Training of Allied Health Professions and Services."

Regional workshop groups will discuss a variety of topics designed to acquaint the participants with disaster planning at the city, county, state, and regional levels.

### **Mumps Skin Test Urged For Exposed Adults**

Wider use of the mumps skin test was urged recently as a way to prevent the disease in susceptible adults.

Writing in the September 2 *Journal of the American Medical Association*, Dr. Richard M. Angle, Santa Fe, N. M., said:

"The value of the mumps skin test . . . lies in determining which patients who have no history of having had mumps might be expected to develop the disease if and when exposed."

On the basis of a study of 170 adolescents and adults given the skin test, he concluded that the majority of adults with no history of mumps are in fact immune to the disease.

The test, he said, would eliminate the necessity of administering either mumps vaccine or mumps hyper-immune globulin, the two preventative agents available. In this way it might also reduce the incidence of severe reactions to mumps vaccine, he said.

Mumps vaccine is generally considered to be ineffective after exposure but offers protection prior to exposure, he said.

"Since the disease in the adult is more than mild and is frequently associated with serious complications, prevention is highly desirable," Dr. Angle said. "The results of this experience (the study) show that the mumps skin test has a high degree of accuracy and thus constitutes a very practical approach to the supposedly susceptible adult who has been exposed to mumps."

Dr. Angle recommended that the skin test be given:

—To all adolescents and adults who have been intimately exposed to mumps but who have not had the disease in order to find the susceptible individuals.

—To all supposedly susceptible parents of small children prior to the development of mumps in the family. Those parents who demonstrate immunity would be spared the fear of contracting the disease, and those without immunity could seek immunization before mumps occur in the family if the diseases were prevalent or an epidemic existed.

—To differentiate parotid gland enlargement caused by mumps from that due to other causes.

Of the 170 persons given the skin test, 153 were shown to be immune. Two of the 153 developed

mumps later but their reactions to the test had been questionable. Of the 17 shown to be susceptible, 5 developed the disease.

None of the patients given mumps vaccine plus gamma globulin developed the disease, Dr. Angle reported. The patients were too few to permit conclusions to be drawn, he said, but the combination of vaccine and gamma globulin deserves further investigation.

### **Doctor Diplomats**

Five physicians from Tulsa, Oklahoma, members of the First Presbyterian Church of Tulsa, are giving up their practices for six-week periods to serve voluntarily at the Miraj Medical Center in Miraj, India.

Dr. C. S. Lewis, one of these five Tulsa physicians, recently reported to the A.M.A. on the progress of the project labeled "Doctors in Asia."

The first of the group of volunteer physicians flew to Miraj in mid-August. He will return at the end of September and the next doctor will make the trip. In all, the five physicians will donate a total of thirty weeks to the program. The project is endorsed by the Tulsa County Medical Society. Funds for medical equipment, transportation and other expenses were raised through church and public contributions.

Other groups of American physicians are also becoming interested in the possibility of initiating a similar venture in their own communities. For example, several doctors met with Doctor Lewis during his A.M.A. visit to discuss the feasibility of adopting an overseas program which would provide medical care to another area of the world equally in need of such assistance.

Still another example of American physicians demonstrating their interest and willingness to serve in foreign mission fields on a temporary basis is shown by the large number of doctors who have written to the A.M.A. Department of International Health in the last few months to inquire about such service. This new Department administers a program approved last June by the A.M.A. House of Delegates whereby members of the A.M.A. may volunteer for service in the foreign mission fields on a temporary basis when emergencies arise. Cooperating with A.M.A. in this program are missionary agencies representing every denomination sponsoring American medical missionaries.

Physicians interested in volunteering for such service are asked to write directly to the A.M.A. Department of International Health, 535 N. Dearborn Street, Chicago 10, Illinois.

### **Foreign Medical Graduates Increase In 1960-61**

The number of foreign medical graduates in approved training programs increased by five per cent during 1960-61, the American Medical Association reported recently.

A temporary decrease had been expected due to the



program initiated by the Educational Council for Foreign Medical Graduates (ECFMG) requiring that foreign interns and residents be tested to determine whether their education measured up to American standards, the highest in the world.

However, the annual report of the A.M.A. Council on Medical Education and Hospitals revealed that of 37,562 internships and residencies filled during 1960-61, there were 9,935 foreign medical graduates constituting 26 per cent of the total. In 1959-60, there were 37,784 filled internships and residencies, of which 9,457, or 25 per cent, were foreign graduates.

While the number of foreign residents increased by 1,270 in 1960-61, the number of foreign interns decreased by 792 compared with the previous year.

This is the first year since 1954-55 that foreign interns have comprised less than one-third of all the foreign physicians in training and is undoubtedly attributable to the ECFMG certification program, the A.M.A. Council said.

"That this decrease is likely to be only temporary is suggested by the results of the April 4, 1961, Educational Council for Foreign Medical Graduates examination which showed that 1,673 candidates were certified directly from abroad," the report said. "If the same or a greater number is certified abroad as a result of the October, 1961, examination, then the previous numbers coming annually to this country for initial training as interns will be equalled or exceeded."

Although foreign physicians were in training in 46 states, the District of Columbia, Puerto Rico and the Canal Zone, 9 states accounted for 72 per cent of the total. These were New York with 2,360 or 24 per cent, Ohio with 893 or 9 per cent, Massachusetts with 711 or 7 per cent, Illinois with 704 or 7 per cent, Pennsylvania with 684 or 7 per cent, Michigan with 499 or 5 per cent, New Jersey with 465 or 5 per cent, Maryland with 450 or 4 per cent, and Missouri with 402 or 4 per cent.

The largest single group of foreign physicians was 2,303 from the Philippine Islands.

As to the future, the report said:

"While it is fair to estimate that increasing numbers of properly qualified foreign trained physicians will be coming to this country annually, it is probable that the total on duty may decrease as the federal government branches responsible for administering the U. S. Information and Educational Exchange Act of 1948 implement the law more effectively regarding return of exchange students to their native lands upon completion of training. The present policy limits such training of physicians to five years."

The Council also reported on two recently inaugu-

rated programs which are expected to shape the future pattern of both medical practice and the health care of the American public.

The first step was the formation of The Advisory Committee on Internships and Hospital Services. This group will "consider methods of producing a more appropriate balance between the number of approved internships and the number of available candidates." In addition, it will consider and make recommendations for "methods of providing competent professional assistance to hospital staffs other than by interns or residents." The committee's final report is due by June, 1962.

The second step is the formation of an Advisory Committee on Graduate Medical Education and Training to study the entire present-day pattern of graduate medical education, i.e., the internship and residency phase of a physician's training lasting from one to seven years.

The committee will make recommendations concerning the conduct of such training in the future in relation to the needs of the nation for physicians, the needs of the public for medical care, and developing patterns of medical practice.

Eight organizations, including the A.M.A., are co-operating in the latter program expected to begin this fall or winter and take two or three years to complete.

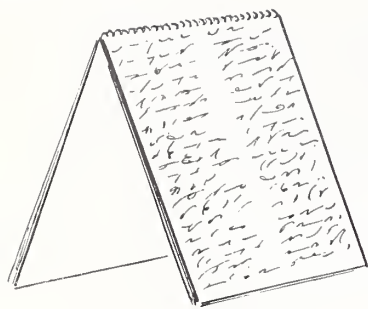
"It is possible that this cooperative study may have an effect on graduate medical education and training not unlike the effect of the Flexner report or undergraduate medical education in 1910," the Council said. (The report of Abraham Flexner is credited with elevating the standards of medical education by eliminating diploma-mill medical schools.)

The Council also spoke out on the "economic pressure" on medical students, particularly as it affects recruitment of the qualified student to medicine.

The report showed that monthly stipends for interns increased again for 1960-61. The average stipend in hospitals affiliated with medical schools was \$178., a 7 per cent increase, and for the nonaffiliated hospital \$219., a 5 per cent increase. Affiliated hospitals paid an average of \$171., to the single and \$184. to the married intern per month, while the nonaffiliated hospital paid the single intern an average of \$215. and the married intern \$223.

"It is clear that some major changes are in order if medicine is to maintain an effective competitive posture in the national recruitment tug-of-war," the Council said.

The annual report, appearing in the current September 2 A.M.A. Journal, was prepared by John C. Nune-maker, M.D., Willard V. Thompson, M.D., Ralph E. Adams, M.D., and Mrs. Rose Tracy.



## *From the Secretary's Notebook*



### Council Meeting — August 27, 1961

The August meeting of the Council was held at Bethel Inn, Bethel, Maine and was called to order by the Chairman, Ernest W. Stein, M.D. at 10:30 a.m. Present in addition to Dr. Stein were Council Members Drs. James A. MacDougall; Ralph C. Stuart; Carl E. Richards; Thomas A. Martin; John F. Dougherty; Raymond E. Weymouth; Charles W. Eastman; Asa C. Adams; George J. Robertson; Daniel F. Hanley and the Secretary, Mrs. Kennard. Clyde I. Swett, M.D., Councilor for the Sixth District was absent because of illness.

#### REVIEW OF 1961 M.M.A. HOUSE OF DELEGATES

A review of items approved at the 1961 annual session of the M.M.A. House of Delegates was the first item on the Order of Business. These included the Resolutions, Amendment to the By-Laws, Recommendations presented by the Health Insurance Committee, etc., which have been published in the August and September issues of The Journal.

#### COMMITTEE APPOINTMENTS

Committee to draw up amendment to the M.M.A. By-Laws to provide for Speaker of the House —

Linus J. Stitham, M.D., Dover-Foxcroft, Chairman  
Arthur N. Lieberman, M.D., Bangor  
Robinson L. Bidwell, M.D., Portland

This committee has been instructed to report at the February meeting of the Council.

Clinical Hypnosis — to study and prepare a Bill to be presented at the next Legislature —

Clyde I. Swett, M.D., Island Falls, Chairman  
Donald Coulton, M.D., Bangor  
Charles W. Eastman, M.D., Livermore Falls

Philip P. Thompson, Jr., M.D. of Portland, was appointed Chairman of a committee to work with Dr. Dean Fisher, Commissioner, State of Maine Department of Health and Welfare, regarding the Medical Care Program authorized by the 100th State Legislature. Serving on this committee will be Carl E. Richards, M.D. of Sanford and Harold N. Willard, M.D. of Waterville.

The Investment Committee was discussed and it was voted that the present members be re-appointed, i.e.,  
Paul S. Hill, Jr., M.D., Saco, Chairman  
Asa C. Adams, M.D., Orono  
Adolphe J. Gingras, M.D., Augusta

#### MODE OF OPERATION OF COUNCIL

This resolution calls for a committee consisting of one member from each Councilor District with such member to be chosen by caucus of delegates in that district. Each councilor was instructed to write or phone members of the House of Delegates in his district and notify them of this action in order that a committee may be appointed in ample time to prepare a report for the Interim Meeting of the House of Delegates in April, 1962.

#### OUT-OF-STATE DELEGATES

The Council was advised that Dr. MacDougall had appointed Dr. Linus J. Stitham as delegate to the 1961 Annual Meeting of the New Brunswick Medical Society and Dr. Paul A. Fichtner of Rangeley as delegate to the Vermont State Medical Society.

The Council appointed Dr. David Davidson of Portland to represent the Maine Medical Association at the Joint USPHS-NTA workshop on Services to Known Tuberculosis Patients to be held in New York City this fall.

#### OTHER BUSINESS

The members were notified that George E. Sullivan, M.D. of Sisters Hospital, Waterville has accepted the appointment as Chairman of the State of Maine Advisory Committee, Selective Service System.

#### COMING MEETINGS

It was voted that the next meeting of the Council be held at the Association's headquarters in Brunswick on October 22, 1961 at 10:00 a.m. The December meeting will be held in Augusta on December 2, 1961 during the Fall Clinical Session.

Adjourned at 12:30 p.m.



Fall Clinical Session  
of the  
Maine Medical Association

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Augusta, Maine — Saturday, December 2, 1961

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SUBJECTS INCLUDE

FOOT DISORDERS IN CHILDREN

HIP DISORDERS

INDICATIONS FOR CESAREAN SECTION

PITFALLS IN X-RAY DIAGNOSIS

ANESTHESIA PANEL

TRANQUILIZERS AND PSYCHIC ENERGIZERS

PANEL DISCUSSION: THE LABORATORY IN MODERN PRACTICE

WHAT YOU SHOULD KNOW ABOUT FALLOUT

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Complete program will be published in the November issue of the Journal and copy sent to each member of the Association well in advance of the meeting.



DEAN H. FISHER, M.D.  
COMMISSIONER

## State Of Maine

# Department of Health and Welfare

## The Crisis In Health Education\*

IAGO GALDSTON, M.D., F.A.P.H.A., F.A.P.A.\*\*

The term crisis is derived from the Greek word which means to separate. In the sense in which I intend it, crisis refers to "that point in time when it is decided whether any affair or course of action must go on, or be modified or terminate." Crisis, in other words, is a time for decision.

Crisis is not to be equated to emergency, for decision need not be made in haste. It will suffice if it be made *in time*. Hence, in speaking on The Crisis in Health Education, I intend to sound no alarms, but only to invite you to look with me to the future, a future that is hastily upon us, and a future that calls for decision.

Since it is health education that faces the crisis, and because we are involved in it, it will be well to refurbish in our minds the historic development of this social process.

It is safe to assume that man was always interested in safe-guarding his health, if to no greater extent than to learn what is edible and what is not, and how to care for and treat bruises, wounds, and other hurts.

Since time immemorial therefore, there must have been some who were, or thought themselves to be, informed, and who taught the others. These were the earliest health educators. They were the medicine men and women who mastered and transmitted the accumulated folklore. All that despite, health education as a social process, as an organized endeavor, pursued by a body of trained and committed individuals, constituting a profession *sui generis*, is not lineally descended from antiquity. It is, rather, of recent origin; it is in effect not much more than a hundred years old.

We can trace its origin to two significant historical eventuations, to the rise of modern industrialism, and to the emergence of a dynamic humanitarianism, a social conscience that would not allow men to stand by and see others suffer.

In effect, health education was first undertaken by the pioneer social workers, by the Lady Bountifuls of the settlements, and the "visiting orders." By our

standards it wasn't very much, nor yet very good health education. It preached temperance, sobriety, decency, church going, and cleanliness. But we must not underestimate its worth to the times in which it was pursued, nor fail to give credit to those courageous souls of good intention. It was they who started the health education movement. In their wake came the sanitarians, who preached less and taught more, and also the social legislators who made the protection of health and the promotion of sanitation a matter of law. By their joint efforts, work hours were shortened, child labor was curbed, work hazards were reduced; the common man was protected against the more noxious substances he encountered in his occupations. With this, too, came workmen's *evening* schools, and popular lectures. By the middle of the last Century, be it noted, not only health education, but general primary education for all, was fostered, and, in time effected.

Health education was an important component in all these various and sundry activities, but it wasn't, so to say, professionalized. It did not acquire a distinctive character, an organic pattern, until the advent of bacteriology.

The reasons for this appear to be quite clear, for before we learned to know of the microbic agents involved in the infectious diseases, health education was perforce confined to the teaching of personal and environmental hygiene, bolstered at its higher levels with some instruction in elementary physiology, and simple anatomy.

The textual themes of health education were: good food (the good not defined), plenty of rest, exercise, fresh air, regular evacuation, x number of glasses of water each day, and brushing the teeth. At the perimeter there was instruction on the evils of smoking, of alcohol, of sexual promiscuity, and of masturbation. Thin gruel at best!

Health education as we know it today, came into being with the emergence of the Voluntary Health Associations. Among these in the United States, the pioneering and preeminent organization was the National Tuberculosis Association, with its state and local

\*A paper presented at the 27th annual New England Health Institute June 14, 1961, Colby College, Waterville, Maine

\*\*Executive Secretary of the New York Academy of Medicine



affiliates. Tuberculosis was, as you will recall, the chief killer, the Great White Plague. Other voluntary organizations came into being — for the prevention of blindness, for the control of venereal diseases, for the aid of crippled children, and ever since, many, many others. Very few among these organizations were in the strict sense of that term, service organizations, that is, providing care for the sick. They were predominantly educational organizations. Care was, concurrently and increasingly provided by clinics, hospitals, and sanatoria, financed by charity, as well as by municipal, state, and federal funds. This growing resource for the care of the sick can, in a measure, be credited to the voluntary organizations, which in addition to educating the public, stirred the public conscience, and prodded the legislators into making available the required facilities.

Nor must we overlook the fact that the voluntary health organizations *inspired* the inclusion and extension of health education in the primary and secondary schools of our country, and supported those of our official health agencies.

I need not, I am sure, since you yourself know them so well, detail for you the many excellent achievements that stand to the credit of the voluntary organizations. Granted, the carping critic can find a good deal to criticize. I myself have spoken some sharp words about certain aspects of their organization and activity, but making allowance for the faults and failures common to all human institutions it cannot be denied that collectively they have rendered a precious service to all mankind, and, I must add, have done it cheaply.

Such being the case one might properly ask — wherefor then the Crisis?

Let me remind you that we intend crisis as a time of decision, the question being whether our course of action is to go on as before, or is to be modified. I submit that health education "cannot go on as before." It must and will be modified, radically.

Why? Because circumstances have changed and *are* changing. In what respects? In the nature of our research science; In the disbursement of our economic resources; In the extension of government participation in the health field; In the changing nature of our disease spectrum. These are the factors which engender our Crisis. These are the determinants that will shape the health education of the future — nigh to us as the morrow.

Let me elaborate on these determinants, but only in brief. Time will not allow for more.

Our scientific research competence — in all fields, but I will treat only of the biological — has grown enormously, not only in volume that is in terms of the persons it engages and the number of institutions wherein it is pursued, but also in its penetrating mastery. No disease, not even those of a genetic nature, now confronts us as an unbreachable mystery. The innermost secrets of the living cell in health and disease are being revealed with the aid of our fabulous technology. More

precious still, though this is given less public acclaim, our knowledge of normal physiology is growing apace. We may anticipate therefore that there will be, in time, less need and less warrant for the existence of voluntary organizations "to conquer" this, that, or the other disease. In our own time we have seen two of the major afflictions of mankind reduced to dwarfed magnitude — tuberculosis, and the venereal diseases. The effective treatment of syphilis and gonorrhea by means of the antibiotics ranks with the greatest achievements of curative medicine. For syphilis was not only an insidious killer, but the cause of infinite suffering. Lately we have witnessed the "conquest" in the true sense of that word, of a disease, never a major killer, but a frightening and crippling disease — infantile paralysis.

Not being in my home town, I can risk playing the prophet, and I may even be honored as one. Taking that risk, I will venture the prophecy that "cancer" will be "conquered" in the near future, as will also coronary heart disease. Rheumatic fever, once a scourge of the young, is now of minor demographic significance.

By all this I do not intend to suggest that a diseaseless world is just around the corner. Far from it! We are now, and will be confronted with a good deal of disease in the future. But these are and will be diseases of a different nature. What I mean to say is that our present-day research competence increasingly enables medicine to intervene directly in the disease process. This alters, I mean *alters*, not necessarily reduces, the role of the ancillary health agencies, including health education. Witness, incidentally, and I'll not comment on it further what has happened to the National Tuberculosis Association, and to what was formerly known as the Infantile Paralysis Foundation.

I must now turn to what I have termed the disbursement of our economic resources. The voluntary health organizations have drawn their financial support from the public in the form of free gifts.

Now it is an impressive fact that persons and governments seemingly will spend only so much and not more, for health services, approximately 4% of their National Gross Product, and that people will give only about 10% of their income to philanthropy. The figures remain fairly stable, but the allocations differ and change. The historic fact is that with time the margin of optative giving is being more and more encroached on by *exacted* giving. A great deal of philanthropy is now administered by government "in the spirit of the Welfare State," with monies withheld, or collected as taxes. These sums are bound to increase, leaving less for what I call *optative* giving. This to my mind means that the voluntary agency will receive less financial support from the public. Let me hasten to add that I do not envisage their "going out of business." I do foresee the possibility that voluntary organizations may become the agencies of the state, receiving partial or total financial support from the government. My vision

is not as wild as it may appear to be. A good deal of this is even now being done in the field of education, research, and medical service.

This of course touches on the third of the determinants which I listed above, namely, the extension of government participation in the health field. The government always was active in the health field. It long antedated the voluntary organizations. But the government's functions were fairly limited to the enforcement of sanitation, and quarantine regulations and the provision of certain services, mainly clinics and hospitals. During the past decades it also contributed very substantially to health education. But currently the government, again in relation to its various welfare services, is extending its operations in the field of medical care. Whether we like it or not, the role of government in medical care, and all that goes with it, health education included, will extend and grow more complex, more embracing. This perforce forebodes many changes, and I would add many new opportunities, for health education.

I turn to the fourth in my list of determinants — that bearing on the changing nature of our disease spectrum. This is a theme of fascination, one that I would gladly dwell on for a long spell. But here I can touch on it in an all-too-foreshortened manner.

Contrary to common assumptions, not all diseases have all been with us, always. Some that were once widely prevalent are now rare or unknown. Some are the new products of our changing conditions and our new ways of living.

Thus — there were always fat men and women, but obesity could not become so widely prevalent as it is today, until there was a plethora of food. The air was little polluted until factories and motor cars began to belch forth their noxious fumes. The diseases of senescence could not loom so large or become so pressing until old age became the common lot of the many.

Death and disease, as we know too well, come in many forms. We *have* achieved much in the mastery of the diseases due to germs and viruses. But this has served in many ways, not causatively, but tangentially, some complex and recondite, to uncover and to bring forth other diseases. In curbing death from the infectious diseases we have taken on the commitment and obligation to care for many who live, but who are chronically and in many respects sick beings. We have thus, as I have said before, converted mortality into morbidity. I do not begrudge this conversion, having nothing of the Social Darwinian in my make-up. I only signal this conversion, as one of the contributing factors in the changing spectrum of diseases. It is not difficult to appreciate that he who is spared death from tuberculosis at the age of forty may be counted among those dying of heart disease at the age of 55.

But this instance is not fully representative of what I have in mind in the changing spectrum of disease. Let me describe it thus — those diseases which have

dominated our recent awareness have been of microbial origin: tuberculosis, pneumonia, typhoid, typhus, diphtheria, scarlet fever, puerperal septicaemia, and so on — a long, dreadful and most impressive list. It is in *this* order of disease, as we have noted before, that medicine has acquired the competence to effectively intervene in the morbid process, to cure by its skills and means, and in many instances to prevent. But there are other diseases, socially as grave, and as menacing to the individual, which are *not* caused by microbial agents, and where medicine in its technological sense, cannot intervene to cure or to prevent. These are the diseases stemming from the individual's faulty ministrations to himself. These are the diseases engendered by untoward cultural and environmental factors that bear on the individual. These are the diseases of ignorance, and of untutored and undisciplined judgment and action.

Obesity is such a disease, as is the "organic stasis" that comes with little physical work and effort. Our shocking death and injury rates from auto accident may be counted in this category of diseases. Also to be included are alcoholism, and drug addiction.

In this listing I would also count much of our mental illness, notably the neurotic disorders, psychosomatic and psychological. The personality disorders fall in this category, as does also much asocial behavior, juvenile and adult. The so-called "accidents" belong here.


What binds this motley list is the common and basic condition that in the last analysis the prevention and remedy of these disorders rests with the individual singly, with the family aggregate, and with the communal group. In common speech — the individuals singly and collectively must *do for themselves*. No vaccines, medicaments, or surgical interventions can, in these instances, relieve the individual of his obligations to himself. It is here, too, that the health educators can operate, not as a sovereign but as very potent agents. In a large measure, the prevention and remedy of these disorders is *education and more education, by informed, skillful, devoted, educators*.

I cannot terminate this portion of my presentation without touching upon an important and related subject, that of our growing knowledge of normal physiology — too much of which is but poorly represented in health education. We know a great deal that bears on the promotion and safeguarding of health, and may I add, to the extent that this knowledge has been applied, it has contributed immensely both to the promotion of health and the prevention of disease. Cardinal in this field has been the science of nutrition. Much of our current physical well-being — for collectively and despite my lugubrious catalogue, we are in comparison to times past a healthier lot — is due to our improved nutrition and better sanitary conditions. But these improvements stand largely to the credit of the industrial and commercial organizations. They made more and


*Continued on Page 318*




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# County Society Notes

## PISCATAQUIS

September 21, 1961

The annual business meeting of the Piscataquis County Medical Society was held at the Stitham Camp, Sebec Lake, on September 21, 1961.

Following a charcoal broiled steak supper prepared by Chef's Pritham and Nielsen, the following officers were elected for next year:

President: George C. Howard, M.D., Guilford

Vice-President: Francis W. Bradbury, M.D., Dover-Foxcroft

Secretary-Treasurer: Isaac Nelson, M.D., Greenville

Delegate to the Maine Medical Association House of Delegates: Linus J. Stitham, M.D., Dover-Foxcroft. Alternate: Charles H. Lightbody, M.D., Guilford.

Board of Censors: Fred J. Pritham, M.D., Greenville Jct. (1 yr.), Ralph C. Stuart, M.D., Guilford (2 yrs.) and James H. Johnson, Jr., M.D., Milo (3 yrs.)

Legislative Committee: Albert M. Carde, M.D., Milo (1 yr.), Norman H. Nickerson, M.D., Greenville (2 yrs.) and John B. Curtis, M.D., Milo (3 yrs.)

Dr. Stitham was elected to the committee to study the revision of Councilor Districts.

The next meeting will be held at the Greenville Hotel in Greenville on December 7, 1961 at 6:00 p.m., at which time Dr. Odd S. Nielsen will present some very interesting X-ray cases.

ISAAC NELSON, M.D.  
*Secretary*

## New Members

### ANDROSCOGGIN

Reuben Leitman, M.D., 188 Sabattus Street, Lewiston

Joseph J. Rando, M.D., 111 Webster Street, Lewiston

### AROOSTOOK

H. D. Warren, M.D., Eastern Maine General Hospital, Bangor

### SOMERSET

Merlon A. Webber, M.D., 33 Lancey Street, Pittsfield

## Change Of Address

### FRANKLIN

Joseph E. Martin, M.D.

From — 23 Water Street, Livermore Falls

To — 35 Main Street, Mexico

### KENNEBEC

Peter F. Lansing, M.D.

From — Veterans Administration, Togus

To — 16 Macomber Avenue, Augusta

# News, Notes and Announcements

**State of Maine Board of Registration of Medicine**  
**Secretary — Daniel F. Hanley, M.D.,**  
**Brunswick, Maine**

**Physicians Licensed to Practice Medicine and**  
**Surgery in the State of Maine**  
**July 11-13, 1961**

### THROUGH EXAMINATION

Kristof Abraham, M.D., 9314 Piney Branch Road, Silver Spring, Maryland

Palma Abraham, M.D., 9314 Piney Branch Road, Silver Spring, Maryland

Harold Abramowitz, M.D., 70 American Legion Highway, Dorchester, Massachusetts

Jose H. Auday, M.D., United Hospital for Crippled Children, Newark, New Jersey

Germain A. Binette, M.D., Portland Road, Saco, Maine

Hasan Haluk Burumcekci, M.D., P.O. Box 339, Erie, Pennsylvania

Cesar M. Caoli, M.D., Box 1453, Middletown, New York

Arnaldo Gomes de Carvalho, M.D., 10 Agassiz Street, Cambridge, Massachusetts

Rodolfo Garcia-Rodriguez, M.D., 1098 Twig Lane, Hammon- ton, New Jersey

Ramsis G. Elias, M.D., 150 Durfee Road, Tiverton, Rhode Island

Horacio E. Erausquin, M.D., St. Mary's Hospital, Lewiston, Maine

Jaime Goldfarb, M.D., Pineland Hospital, Pownal, Maine

Evaristo Gomez, M.D., Gowanda State Hospital, Helmuth, New York

Quang-Hsi Hu, M.D., Willard State Hospital, Willard, New York

Alkis Ioannides, M.D., 298 West Britannia Street, Taunton, Massachusetts

Parvizi Kambin, M.D., 411 Lincoln Avenue, Orange, New Jersey

Edmund Klein, M.D., 52 Grant Avenue, Newton Center, Massachusetts

Joseph Kovacic, M.D., Monmouth Medical Center, Long Branch, New Jersey

William P. Luke, M.D., 20 Trask Road, Peabody, Massachusetts

Moufid Ragheb, M.D., MacNeal Memorial Hospital, Berwyn, Illinois

Samir M. Ragheb, M.D., Royal Victoria Hospital, Montreal, Canada

Abolhassan, Sherkat, M.D., The Graduate Hospital, University of Pennsylvania, Philadelphia, Pennsylvania

Vincente L. Sy, M.D., 1033 Jefferson Avenue, Elizabeth, New Jersey

Er Yi Ting, M.D., Yeshiva University, New York, New York

Boris A. Vanadzin, M.D., 95 Murray Street, Portland, Maine

Basile Zacharioudakis, M.D., Harlem Hospital, New York, New York



Stephen J. Zsoldos, M.D., Mt. Desert Island Biological Laboratory, Salisbury Cove, Maine

#### THROUGH RECIPROCITY

Ali S. Akad, M.D., J. O. Parramore Hospital, Crown Point, Indiana  
 Emine N. Akad, M.D., J. O. Parramore Hospital, Crown Point, Indiana  
 Fay K. Alexander, M.D., Greene and Coulter Streets, Philadelphia, Pennsylvania  
 Albert S. Anderson, M.D., 6 Peterson Avenue, Caribou, Maine  
 Heinrich S. Baar, M.D., Pineland Hospital, Pownal, Maine  
 Michael D. Ballard, M.D., 1742 South 64th Street, West Allis, Wisconsin  
 Charles E. Burden, M.D., 1064 Beacon Street, Brookline, Massachusetts  
 Rigoberto Campos, M.D., Station "A", Trenton, New Jersey  
 Alice N. Cunningham, M.D., Lutheran Hospital of Maryland, Baltimore, Maryland  
 Peter S. Czachor, M.D., 7 Islington Street, Portsmouth, New Hampshire  
 Alfred E. Darby, Jr., M.D., Connecticut State Hospital, Middletown, Connecticut  
 Donald A. DeCosta, M.D., Community Health Center, Poland Spring, Maine  
 Stanley G. Dienst, M.D., 135 Vaughn Street, Portland, Maine  
 Richard L. Field, M.D., 9 Rivercrest, Hanover, New Hampshire  
 Carl R. Griffin, Jr., M.D., 202 Morningside Drive, West, Bristol, Connecticut  
 Leander A. Guite, Jr., M.D., Maine Medical Center, Portland, Maine  
 Paul A. Jones, Jr., M.D., 5 Oakdale Court, Syracuse, New York  
 Athanassios S. Kassapidis, M.D., 224 Eighth Avenue, New York, New York  
 George R. Landwehr, M.D., 1161 Glenwood Boulevard, Schenectady, New York  
 George J. Lantos, M.D., Box 1453, Middletown, New York  
 George A. Lord, M.D., P.O. Box 37, Alfred, Maine  
 Joseph J. Lucas, Jr., 3704 Hawthorne Avenue, Omaha, Nebraska  
 Declan O'Scanlon, M.D., State Hospital, Marlboro, New Jersey  
 Pandelis K. Pandelidis, M.D., Connecticut State Hospital, Middletown, Connecticut  
 Wesley F. Roberts, M.D., 38 Taft Road, Portsmouth, New Hampshire  
 E. Arthur Robinson, M.D., Box 83, Marshfield, Massachusetts  
 Harold A. Rosene, Jr., M.D., 29 Rivercrest, Hanover, New Hampshire  
 Joseph P. Senenkyj, M.D., Box 724, Augusta, Maine  
 Nicholas N. Sergeeff, M.D., Augusta State Hospital, Augusta, Maine  
 Charles M. Shea, M.D., Box 724, Augusta, Maine  
 Thomas M. Shea, M.D., St. Luke's Hospital, New York, New York  
 Mariano F. Songco, M.D., Box 508, Laurel Hill Road, Norwich, Connecticut  
 Charles L. Thayer, M.D., 12 Fleet Street, Portsmouth, New Hampshire  
 E. Stanley Young, M.D., 1550 G Street, Anchorage, Alaska

#### Dr. Dwyer Elected To New England Office

Dr. Clement S. Dwyer, anesthesiologist on the Staff of the Eastern Maine General Hospital in Bangor, was elected President of the New England Society of Anesthesiologists at the annual meeting which was held at Wentworth-by-the-Sea in Portsmouth, New Hampshire on September 17.

#### Dr. Darlington Named President Of Maine Tuberculosis Health Association



Dr. Brinton T. Darlington of Augusta was elected President of the Maine Tuberculosis Association at the organization's golden anniversary meeting at the Samoset Hotel in Rockland, Maine on September 12.

#### Second International Medical Congress On Mental Retardation

In August of this year, the Second International Medical Congress on Mental Retardation was held in Vienna, Austria, with physicians from 30 countries attending. Several of these were from Maine: Dr. Ella Langer, Augusta, Director of the Division of Maternal and Child Health and Crippled Children's Services, State Department of Health and Welfare; Dr. Peter W. Bowman, Superintendent, the Vice-president of the Congress, and members of his staff, Drs. Hans Mautner, H. S. Baar and H. Gruemer from Pineland Hospital and Training Center, Pownal; Dr. Edmund S. Ervin, Waterville, Medical Director of Maine's only clinic for Mentally Retarded Children. Several of the Maine physicians took an active part in the Conference.

The Conference has added significance in that its cornerstone was laid in Portland, Maine two years ago with the holding of the First International Medical Conference attended by physicians from 35 foreign countries and 40 states of this country. The purpose of the Conference was to review accomplishments as well as shortcomings in the understanding, prevention and treatment of diseases and conditions related to mental deficiency, and to discuss these questions on a medical scientific level primarily.

So outstanding a success was the first Conference which was everywhere acknowledged to have added a new chapter in medicine, namely "the science of mental deficiency" that it was immediately determined to establish a permanent committee and to hold a second conference two years' hence. The latter was arranged for 1961 in Vienna where half a century ago a pioneer in this field, Lazar, had charge of the first ward for the mentally retarded in a leading university hospital, Pirquet's Kinderklinik.

A series of outstanding lectures on many subjects related to mental deficiency presented by persons eminent in the field occupied the few days of program for this Second Congress. Social aspects were outstanding as well for Vienna with its art treasures, beautiful buildings, churches, parks offered

tremendous cultural opportunity to its visitors. Highlighting these functions was the reception given by the Mayor of Vienna on the famous Kahlenberg. The banquet took place in the Palace Pallavicini and will be long remembered by the participants especially those from this State who saw one of their colleagues, Dr. Hans Mautner, signally honored on this occasion. He was made an honorary member of the Vienna Society of Pediatrics — only two other persons ever having received this honor before him. The presentation was made by Dr. Kundratitz, president of the Congress.

The proceedings of the Congress will be published through a grant from the Lt. Joseph P. Kennedy, Jr. Foundation — the only Foundation in this country devoted solely to mental retardation. The same Foundation financed the publication of the Proceedings for the First Conference.

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### Medico-Legal Course

The Law-Medicine Research Institute, Boston University, is instituting a new program of post-graduate seminars for practicing physicians, lawyers, prosecutors, police officials and other forensic scientists.

The first course *Scientific Investigation in Criminal Justice*

will take place on November 3 and 4 at the Statler-Hilton Hotel in Boston, Massachusetts.

A \$25 registration fee for the two days includes two complimentary luncheons and a copy of the proceedings.

Topics for the two-day session will include: "The Techniques of Preparing for and Prosecuting Criminal Cases," "Scientific Crime Detection I: Fingerprint and Firearms Identification, Comparative Micrography, Trace Evidence" and "Forensic Toxicology: The Problem of the New Drugs in Poisoning Cases."

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### New England Postgraduate Assembly

The eighteenth annual New England Postgraduate Assembly will be held at the Statler Hilton in Boston, Massachusetts on November 6, 7 and 8, 1961.

The Assembly is sponsored by the Council of New England State Medical Societies in cooperation with the New England State Chapters of the American Academy of General Practice.

Open to all physicians. Registration fee: \$10. For further information write: Dr. Edward V. Putnam, Chairman, New England Postgraduate Assembly, 22 The Fenway, Boston 15, Mass.

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## Letter To The Editor

### A Medicare Problem We Didn't Expect

Daniel F. Hanley, M.D., Editor  
The Journal of the Maine Medical Association

Dear Doctor Hanley:

The retention of certain servicemen beyond their normal date of expiration of active duty tours is essential in order that the augmentation of the Uniformed Services, called for by the President, can be attained. Implementation poses many problems. Among them is the valid identification of the extendees' dependents who will remain eligible for certain benefits while their sponsors remain on active duty.

The extension of tours of duty may result in some dependents being without a valid Identification Card for some time. The basis of identification of dependents is, as you know, the Uniformed Services Identification and Privilege Card (DD Form 1173). Each card carries an expiration date of eligibility. This date, in the case of dependents of noncareer personnel, is the same as the expected expiration date of the sponsor's tour of active duty.

In the past, the "expiration date" on the ID Card has been the governing factor in determining that eligibility still exists. Since the involuntary extension of the tours of duty of many servicemen is effective almost immediately, the probability exists that some still-eligible dependent wives and children may apply for civilian medical care to which they are still entitled. They may not, however, have in their possession the required proof of their eligibility.

No change is contemplated in the provision of our contract which states that claims may not be processed for payment until the dependents have proven their eligibility to receive care. Service personnel are being advised that it is

their responsibility to take necessary action to "up-date" the evidence of dependents eligibility.

It is most probable, however, that some dependents will be in need of authorized medical care from civilian sources prior to the time this action has been completed. In such cases, the dependent has been instructed to explain the situation to the physician and hospital authorities. They have been advised to present, if available, some tangible evidence such as allotment checks, official orders, directives, or personal letters which state the pertinent facts to the physician or hospital to help support the dependent's claim of continued eligibility.

This office is not empowered to broaden the "good faith" aspect of our contract. The number of dependents temporarily "unidentified" who require medical benefits will not be large.

In view of the situation at hand, I would appreciate your assistance in encouraging physicians and hospitals to exercise patience and understanding during the next several months when their services are requested by dependents of these extendees.

I must emphasize, however, that no claims may be processed for payment unless the dependent has provided a valid DD Form 1173 or a statement of eligibility as required by our contract and as outlined in ODMC Letter No. 1-60.

W. D. GRAHAM  
Brigadier General, MC, USA  
Executive Director  
Office for Dependents' Medical Care  
Office of the Surgeon General, U. S. Army  
Washington, D.C.



Book Review

**Medical Pharmacology — By Andres Goth, M.D.,** Professor of Pharmacology and Chairman of Department. The University of Texas Southwestern Medical School, Dallas, Texas. Cloth, \$11.00. Pp. 550 with 51 illustrations. C. V. Mosby, Publisher, St. Louis, Missouri, 1961.

In the face of the rapid accumulation of new drugs being made available, the problem of writing a pharmacology text which is both adequate and readable has been admirably overcome by Doctor Goth.

The first of eleven sections deals briefly but adequately with general aspects of pharmacology such as absorption, distribution, metabolism, detoxification, mechanisms of action, dosage, antagonism, synergism and tolerance.

The other ten sections include drug effects on the nervous system, psychopharmacology, depressants and stimulants of the central nervous system, anesthetics, drugs used in cardiovascular disease, drug effects on the gastrointestinal tract, drugs influencing metabolic and endocrine functions, chemotherapy, poisons and antidotes, prescription writing and drug compendia, and new approaches to therapy.

Highlights of historical interest are introduced where practical, but detailed boring descriptions of experiments are omitted. Bibliographies following each chapter are recent, brief, but adequate.

The book, primarily written for students and practitioners, presents current pharmacologic knowledge (including essential facts about important drugs) with reference to principles and concepts.

HOWARD P. SAWYER, JR., M.D.  
Portland, Maine

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THE CRISIS IN HEALTH EDUCATION — *Continued from Page 312*

better foods available, and they promoted their consumption. They have also done many other things less to their credit. But despite that we must recognize the good they contributed, from whatever motives.

Without belaboring the subject, I would underscore the fact that our knowledge of normal physiology, which I would paraphrase as meaning our knowledge bearing on *that which is requisite for health*, is growing in extent and depth, and also that this knowledge can in the ultimate be implemented only by the individual singly.

The collective group is of course involved in this in so far as only it can make this implementation possible. It is like good food on the grocer's shelves, unless the grocer makes it available, the customer cannot buy it, but having made it available, it is the individual who must buy it and consume it to obtain the benefit thereof.

On this score, let me cite one pertinent example. In research on the etiology of atherosclerosis, one crucial and outstanding fact appears quite clear, namely that bodily exercise is a critical prophylactic factor. Not only has this been demonstrated statistically (the lower incidence of atherosclerosis and coronary diseases among the lower economic and hence "hard working" groups) but it has been experimentally shown in the animal studies by Tepperman of Syracuse. Now, as you so well know — we have become a sedentary and an inactive people. Our world has been mechanized. It is the machines that do the work, and most men merely press buttons and move levers. A good deal of the prevalent obesity is the result not alone of over-eating, but of *the under expenditure of energy*. Parenthetically, for reasons which I cannot here expound, I am convinced that the sedentary individual suffers sharper hunger pains, feels that he has a greater need of food, than does the individual who is physically active. But how are people to learn and to understand the physiological importance of exercise unless they are taught to know and to appreciate these facts, and who will persuade them to suffer the initial pains and aches that come with unaccustomed physical effort, if it be not the health educator.

Our expanding knowledge of the physiological requisites for health is an embracing and *expanding realm*. It is not merely, and strictly, confined to the physical factors. There is also an *ecological realm*, involving not merely housing, working conditions, and general hygiene, but embracing also the *social milieu* and the psychological climate. We live not only in a physical but also in a *cultural atmosphere*.

Clearly man's health depends not only on his "physical input," meaning food, air, and water, but also on his sensory input.

Sensory ecology is a new field of research and one of enormous significance. Currently the emphasis is on *sensory deprivation*, but even now some few among the workers are extending their studies to "sensory overload," and to the embracing subject of sensory input and its relation to maturation and health.

Those interested should consult the pioneering works of René Spitz, J. Bowlby, D. O. Hebb, and J. C. Lilly. This list is not all inclusive. A fine summary of current knowledge has been published in a volume titled *Sensory Deprivation*, Harvard University Press — 1961.

These studies show that basically and fundamentally, as requisite for health as is adequate nutrition, is sensory input, including love, security, (not merely economic) and meaningfulness.\* These components so requisite to the health of the individual cannot be administered by technicians, cannot be ministered to man by a third party.

And yet there can be little doubt that before very long the health educator, no less than the public health officer, the educator, the physician and the psychiatrist, will be deeply concerned with man's sensory ecology.

The list of concerns in which the health educator should be, and is to be, involved has grown long. Am I then asking too much of him? Possibly! And yet, I think not more than what the expectations of reality will require of him. Perhaps the "him," will be a multiple of distinctive persons, gifted and trained in special fields.

I must end on the same note wherewith I began — on Crisis. I'll not expand on it, but only urge you to study it deeply. Two recent works can prove of value to you, as they did to me. I commend to you *Man and Crisis* by Ortega y Gasset, and also *The Rape of Europe* — by Luis del Corral. The rest is with you, and may you be inspired and prosper.

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\**op. cit.* p. 199: "In general, an impoverished environment, one with diminished heterogeneity and a reduced set of opportunities for manipulation and discrimination, produces an adult organism with reduced abilities to discriminate, with stunted strategies for coping with roundabout solutions, with less taste for exploratory behavior, and with a notably reduced tendency to draw inferences that serve to cement the disparate events of its environment such as between the light of a candle flame and the likelihood of its burning when you put your nose into it." *Sensory Deprivation*; Harvard University Press, 1961





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## Diagnosis In Acute Abdominal Conditions

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The "acute abdomen" is defined as "medical slang for any acute condition within the abdomen demanding immediate operation."<sup>1</sup> The evaluation of such a condition is not always a clear-cut one even though this is by no means, unmapped territory. Here the laboratory plays a role, but the five senses and more especially good sense of the clinician are of greater importance.

Toward this end 392 consecutive acute abdominal cases admitted to the general surgical service at William Beaumont General Hospital and operated upon in 1958 and 1959 have been reviewed. The operative findings are summarized in Table I. From this review certain principles of accurate diagnosis become obvious and will be discussed. In addition several interesting cases which illustrate these principles and their exceptions will be presented.

Before a discussion of the diagnosis of the surgical abdomen, it is well to review briefly the nonsurgical conditions that simulate the acute abdomen. Suffice it to say that frequently the symptoms so caused are often not severe or persistent enough to come to the attention of the surgeon; however, when they do, these conditions must be considered, or they will not be diagnosed. The more common conditions, such as pulmonary and cardiac disease, will not be included because they are routinely considered in an adequate work-up. Rather a review in outline form of what has been called "systemic causes of abdominal pain"<sup>2</sup> follows:

1. Diseases due to hypersensitivity: "collagen diseases"
  - a. Rheumatic fever
  - b. Lupus erythematosus

- c. Periarteritis nodosa
- d. Dermatomyositis
- e. Scleroderma

The above diagnoses should be thought of in the patient who has had a negative abdominal exploration on a previous occasion for abdominal symptoms. It should also be remembered that these patients are prone to develop surgical complications of their basic disease and care must be taken not to be reluctant to operate if indications are present.

- f. Serum Sickness

### 2. Infections:

- a. Viral Gastroenteritis (Beware of the patient with appendicitis during an epidemic).
- b. Bacterial enteric pathogens
- c. Viral Hepatitis
- d. Amebiasis
- e. Malaria
- f. Trichinosis
- g. Sub-acute Bacterial Endocarditis
- h. Rickettsial Diseases
- i. Infectious Mononucleosis
- j. Herpes Zoster
- k. Epidemic Pleurodynia
- l. Gonorrhea in women (Curtis-Fitzhugh Syndrome)

### 3. Exotoxins:

- a. Staphylococcus
- b. Clostridium Botulinum
- c. Mussels
- d. Milk Sickness Etiology is from meat or milk of cattle that have eaten white snakeroot (*Eupatorium Urticaefolium*) or rayless goldenrod (*Aplopappus Heterophyllus*).
- e. Mushrooms (*Amanita Muscaria*)
- f. Ergot
- g. Solanin (raw sprouting potatoes)
- h. Cowbane
- i. Rhubarb Leaves
- j. Drugs
- k. Heavy metals and chemicals

### 4. Arachnidism

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TABLE I

Stomach . . . . .	7
Perforated gastric ulcer . . . . .	4
Perforation due to trauma . . . . .	1
Pyloric obstruction due to ulcer . . . . .	2
Duodenum . . . . .	14
Perforated duodenal ulcer . . . . .	11
Intussusception . . . . .	1
Duodenal obstruction . . . . .	2
(Stenosis 1	
Annular pancreas 1)	
Small Bowel . . . . .	33
Obstruction . . . . .	25
Adhesions 19	
Internal hernia 4	
Volvulus of ileum 1	
Ileocolic intussusception 1	
Meckel's diverticulitis . . . . .	2
(7 found incidentally)	
Regional enteritis . . . . .	1
Perforation due to trauma . . . . .	5
Colon . . . . .	8
Obstruction . . . . .	3
Fecal impaction 2	
Tumor 1	
Diverticulitis . . . . .	3
Perforation 2	
Perforation due to trauma . . . . .	2
Appendix . . . . .	288
Acute appendicitis . . . . .	288
With perforation 20	
With gangrene 7	
With abscess 2	
With carcinoid 2	
(34 additional appendectomies	
performed for mesenteric	
adenitis, etc.)	
Peritoneum, mesentery, and omentum . . . . .	7
Infarcted omentum . . . . .	2
Mesenteric thrombosis . . . . .	1
Hemoperitoneum due to trauma . . . . .	4
Liver . . . . .	7
Rupture due to trauma . . . . .	5
Hepatic infarction . . . . .	1
Hepatic abscess . . . . .	1
Biliary tract . . . . .	13
Acute cholecystitis . . . . .	13
With gangrene 3	
With common duct stones 1	
Spleen . . . . .	9
Rupture due to trauma . . . . .	9
(Delayed 1)	
Pancreas . . . . .	3
Acute pancreatitis . . . . .	3
TOTAL	392

## 5. Metabolic diseases and electrolyte disturbances.

These are complex diseases causing symptoms by dilution or concentration of Sodium, Potassium, Chloride, or Calcium. The most common causes are hypokalemia and hypercalcemia.

- Uremia
- Cirrhosis
- Diabetic Acidosis
- Renal Disease
- Hypo or Hyperparathyroidism
- Hypo or Hyperthyroidism
- Inborn Errors of Metabolism
  - Porphyria
  - Hyperlipemia

## 3) Hemochromatosis

## 4) Myoglobinuria — Crush Syndrome

## 6. Neurological Disorders

- Tumor affecting a spinal nerve root
- Tabes Dorsalis
- Diabetic Neuropathy
- Migraine
- Epilepsy
- Bulbar Polio
- Glaucoma
- Proctalgia Fugax

## 7. Mematologic Diseases

- Leukemia
- Hemolytic Anemia
- Transfusion Reactions
- Polycythemia Vera
- Hemophilia
- Multiple Myeloma
- Lymphoma
- March Hemoglobinuria
- Congenital Spherocytosis
- Sickle Cell Anemia
- Pernicious Anemia
- Iron Deficiency Anemia

## 8. Mechanical and Physical Trauma

- Acute Gastric Dilatation
- Radiation Sickness
- Micro-wave Burns
- Compressed Air Sickness
- Mountain Sickness

## 9. Psychiatric Disorders Abdominal pain as a manifestation of malingering is rare other than in childhood.

Obviously, most of the foregoing conditions do not enter into the ordinary differential diagnosis; however, it is well to realize they may cause acute symptoms and will occasionally be encountered. The mainstays of diagnosis are history, physical examination, experience, and the laboratory findings.

The history is probably the most useful means at the physician's disposal for arriving at a correct diagnosis.<sup>3</sup> The old adage that the patient can tell you the diagnosis is often true. Sympathetic listening is the secret of history taking, but there are pitfalls to be avoided.

The surgeon should take his own history. He tends to phrase and emphasize questions in an individual way which he alone can interpret. The answers to one person's questions may be misleading to a second observer. In addition, information may be elicited which was overlooked in the first history.

The history should be taken in chronological fashion, starting with the patient's first aberration from normal health. In the case of acute conditions within the abdomen the time interval is usually quite short, and it may be useful to go over the history in an hour by hour manner. Acute conditions are usually dynamic in the symptoms they produce, and often change is of more significance than the symptom itself.

When a symptom is traced back to its appearance, it is well to carry the question one step further back. Often this will uncover the fact that the onset was actually earlier. An example of this is the child who has had a tummy ache since it got up this morning, according to its mother. Further questioning may reveal that its appetite for supper the night before was not as



**... (abdominal signs are notoriously less reliable in the pregnant, the very young, and the very old).**

good as usual and that while watching television that evening it lay with its knees drawn up, or with a pillow clutched against its abdomen, rather than in its normal posture—a condition that precedes the onset of the complaint by 12 hours.

Analyze the type of pain. Location at onset and later changes, as well as character and intermittency are important. This will often fit the condition into a general classification for disease and will narrow the spectrum of diagnostic possibilities. Most abdominal conditions can be fitted into the categories of inflammations, colics, perforations, obstructions, hemorrhages, or vascular lesions. Once this can be done, it will help the examiner to pursue more detailed questioning to support or contradict his impression and guide him to a more accurate working diagnosis.

If another person is present who is familiar with the patient, it is often worthwhile to review pertinent parts of the history with him. Surprisingly often, information is gained which, for one reason or another, was overlooked or altered by the patient.

Never omit the question of allergies and medications. Not only may they be the underlying cause for the present illness, but they may bring the patient, surgeon, and anesthetist alike to sudden inexcusable and avoidable catastrophe. This is particularly important as regards narcotics, steroids, anticoagulants, and tranquilizers.

Write your history down and read it over. Not infrequently one is surprised at the way facts will crystallize and become meaningful at this time.

Physical examination is perhaps more useful in determining the urgency<sup>4</sup> for operation than in establishing the preoperative diagnosis, though it is certainly of great value in confirming the impression arrived at by the history.

It should be remembered that here one also sees the manifestations of disease as a dynamic entity, and that if findings at one examination are inconclusive, re-examination after a short interval may make the picture clear. Remember also that (abdominal signs are notoriously less reliable in the pregnant, the very young, and the very old).

Complete physical examination should be accomplished; however, the abdominal portion is usually of greatest importance. Care should be taken to obtain accurate readings of temperature, pulse, blood pressure, and respirations. These must be recorded accurately and frequently. The patient should be made as comfortable as possible with the bed or examining table made flat. A head pillow is permissible and generally the knees should be brought up to secure maximal abdominal relaxation. Light should be adequate.

Inspection is often hurried and can be very impor-

tant. The normal configuration of the abdomen is scaphoid, in which case when the patient lies supine the abdomen does not protrude above the xiphopubic line. If it does, distention may be present. Measurement of abdominal circumference is infrequently used, but it may be diagnostic of increasing distention and should not be overlooked if doubt exists. Careful inspection may reveal other easily missed findings such as a mass or visible peristalsis.

Auscultation should be carried out prior to disturbing the abdomen by any type of palpation. Normal bowel sounds are low in pitch, relatively slow, and may have silent intervals of 20 or 30 seconds. They may be abnormal in two qualities, frequency and pitch. With complete ileus they may be absent, though the examiner should listen carefully for at least five minutes to be sure. With an irritative condition, such as gastroenteritis or early peritonitis, they may be of normal pitch but hyperactive. Early in the course of obstruction there may be rushes, or crescendo-type sounds with some increase in pitch, alternating with silent periods and corresponding with crampy abdominal pains. Increase in pitch is a function of intraluminal pressure and will become higher as distention increases. In late obstruction only an occasional tinkle or short high-pitched sound may be heard.

Palpation should be accomplished with warm hands and in a fashion so as not to traumatize the patient. It should be gentle and commence from a location away from the painful area. Gentle palpation should be used to localize areas of tenderness by approaching them and then returning to them to see if the tenderness is constant. It should be remembered that pain tolerance is very variable and that firm palpation over the rectus muscles, for instance may elicit pain in some patients. It is sometimes useful to have the patient tense these muscles by lifting the head from the table, at which time palpation will be more painful if the tenderness is muscular rather than intraperitoneal.

Muscle spasm should be evaluated. Almost any patient will exhibit voluntary guarding if palpation is vigorous; however, this may be of significance if it coincides with the area of pain and palpation has been gentle. Involuntary spasm is much more significant and should be carefully sought in comparison to the identical contralateral area.

Rebound tenderness is perhaps the most reliable sign of intraperitoneal disease but also requires careful evaluation. It may be classified into three types. The first is subjective rebound, where the patient, upon testing, says that it hurts when he is asked but does not tense his muscles or spontaneously cry out in pain. Some patients will show this with no intra-abdominal disease. When the release is made, it jars the peritoneum, which is after all a sensitive organ, and the jarring is interpreted by some patients as pain. On the other hand one may not elicit a greater response from the very stoical patient who actually has peritoneal irritation. Objective

rebound leaves no doubt. The patient cries out, tenses his abdominal muscles, and extends himself as in opisthotonus. The last type, also useful in localizing the involved area, is referred rebound. This occurs when the release is made at some point distant from the suspect area and causes pain in it. This is highly significant.

Another useful test is abdominal percussion, which also gives a sudden shock to the peritoneum and should elicit the same response as rebound-testing. This can be used to advantage when extreme gentleness is required as in the severely tender abdomen or in the examination of infants and children. It may also be used to confuse the patient and confirm rebound when one suspects malingering. Occasionally rebound tenderness will not be found in the face of severe disease for no explained reason.

Pelvic and rectal examination should never be overlooked.

Finally it should be remembered that "all signs fail in foul weather," and though one has not found what he considers an absolute indication for laparotomy, if the general condition of the patient is not improving on conservative care, early judicious operation is less dangerous than awaiting diagnostic but irreversible complications.

The laboratory is a definite adjunct to diagnosis. Complete blood count and urinalysis as routinely obtained may contribute to the balance of evidence favoring a diagnosis but are rarely diagnostic. A white blood count greater than ten thousand is indicative of an infectious process, but a shift toward more immature forms is probably more reliable. Repeated blood counts are useful in following the acutely ill patient either in terms of toxicity or blood loss but not infallible. The routine preoperative blood count may occasionally save the surgeon embarrassment in regard to an unsuspected hematologic disease such as leukemia. It is most important to remember that laboratory reports alone should never be relied upon to determine the necessity for an operation.

Radiology is an invaluable aid to diagnosis in obscure cases.<sup>5</sup> When doubt about the diagnosis exists, flat and upright abdominal films as well as a chest film should be obtained. Probably the most useful application is in cases of intestinal obstruction. X-rays can often confirm or deny its presence. The presence of free intraperitoneal air is of great significance; its absence does not rule out a perforated viscus. It should be remembered that only about 75% of free air is due to perforated peptic ulcer.<sup>6</sup>

Other causes are:

1. Subphrenic abscess with gas forming organism
2. Transposition of viscera
3. Following laparotomy
4. Perforated malignancy at any GI location
5. Perforated ulcer of the bowel
  - a. Typhoid
  - b. Tuberculosis
  - c. Regional enteritis
  - d. Ulcerative colitis

6. Ruptured Meckel's diverticulum
7. Ruptured diverticulum of the colon
8. Following diagnostic procedures
  - a. Gastroscopy
  - b. Sigmoidoscopy
  - c. Rubin's test
9. Following the knee-chest position in the postpartum female
10. Perforation from adenitis
11. Following therapeutic pneumothorax
12. Spontaneous idiopathic air does occur.

These routine films may also yield information concerning other diagnoses, but they are less valuable. With a ruptured spleen there may be an abnormal splenic shadow, scalloping of the greater curvature of the stomach if bleeding into the gastro-splenic ligament has occurred, or downward displacement of the stomach bubble by a subphrenic organized hematoma. Roughly 75% of urinary calculi and 15% of biliary calculi can be seen. Signs of localized peritonitis such as loss of the properitoneal fat line or psoas shadow may be helpful.

Suggestive findings such as the "sentinal loop" in early intestinal obstruction or acute pancreatitis may add weight to a diagnosis. In addition, x-ray may save the operator embarrassment in the case of an unsuspected diaphragmatic hernia, pneumonia, or pneumothorax.

Abdominal paracentesis has come back into vogue according to some authors<sup>7</sup> as a diagnostic aid. A positive tap is helpful but requires that a significant amount of fluid be present in the abdomen for dependability. Dog experiments using calculated amounts of fluid on a basis of relative volumes have shown that positive taps are obtained with:

500 cc	78%
400 cc	71%
300 cc	44%
200 cc	16%
100 cc	2%
50 cc	0%

Bowel was lacerated in 19% and penetrated in 4% of dogs with no morbidity. In 101 clinical cases bowel was perforated in 4% with no reported morbidity. Eighty-two % positive taps were obtained, and 12% were considered to be of diagnostic value. These were in cases of ruptured liver and spleen, ectopic pregnancy, acute pancreatitis, strangulated obstruction, ruptured tubo-ovarian abscess, and chylous ascites. This procedure may be kept in mind for the unusual but is not generally advisable. These conditions are wholly apart from the proven value of culdocentesis in the case of pelvic diseases. The one exception is in the case of suspected acute pancreatitis where abdominal paracentesis may be diagnostic and save the patient an operation and anesthetic. Here again the same information is more safely obtained by means of serum amylase and lipase, and urinary diastase.

Completely accurate diagnosis in acute abdominal conditions is preoperatively impossible. Many bizarre conditions are found which present clinical syndromes indistinguishable from more common conditions. An example of this is the case of idiopathic segmental hem-



orrhagic infarction of the greater omentum. In a reported<sup>8</sup> series of 26 cases, it was misdiagnosed 23 times preoperatively as acute appendicitis, once as acute cholecystitis, and twice not recorded. Two such cases are included in this series, and both were diagnosed preoperatively as acute appendicitis. In this series accuracy of preoperative diagnosis was approximately 85%.<sup>9</sup>

#### Illustrative Cases:

Case 1. A 34-year-old white male entered the hospital with a history of the sudden onset of colicky right lower quadrant pain of one hour's duration. The pain did not radiate and was relieved by drawing his right leg up. There were no associated gastrointestinal or genitourinary symptoms.

Physical examination on admission revealed the patient to be afebrile and exhibit only some generalized right-sided abdominal tenderness and guarding. Bowel sounds were normal; there was no costovertebral angle or rectal tenderness.

White blood count was 11,500 with 84 neutrophils, 8 band forms. Urinalysis was negative.

Because of the possibility of ureteral calculus, a flat film of the abdomen was obtained, which revealed what appeared to be a rivet in the right lower quadrant.

Over the next few hours the patient's tenderness localized to McBurney's point and rebound tenderness developed. Appendectomy was performed, and acute appendicitis with the rivet in the appendix was found. In retrospect, the patient recalled having done some leather work with similar rivets about eight years previously.

Comment: This case illustrates how a patient may present with suggestive evidence of one condition and over a short period become diagnostic of another, with the additional finding of a foreign body in the appendix.

Case 2. A 67-year-old white woman entered the hospital with a history of left-sided abdominal pain of one day's duration, severe and constant, though more severe intermittently. There had been a normal bowel movement on the day of admission, with no nausea or vomiting, no diarrhea, though there was a history of chronic constipation for many years.

Physical examination revealed a temperature elevation of 99 degrees, a pulse of 100, and a blood pressure of 100/70. There was marked left anterior mid-abdominal tenderness with direct and referred rebound, moderate guarding, and suggestion of a mass in the area, which could not be definitely outlined because of the patient's obesity and tenderness. No bowel sounds were heard in five minutes; pelvic and rectal examination were negative.

White blood count was 14,000 with 88 neutrophils, 47 band forms. Hemoglobin was 15.6 grams, hematocrit 46. Serum amylase 150, S.G.O.T. 15. Urinalysis negative. A flat film of the abdomen confirmed the impression of intestinal obstruction and was suggestive of a left upper quadrant mass.

At operation the abdomen contained a moderate amount of cloudy malodorous fluid from which was cultured hemolytic staphylococcus aureus. At the splenic flexure the colon was found to be sharply angulated and contained a large mass of feces. There were patchy areas of gangrene in the wall of the colon overlying this mass; no perforation was present. The involved area of colon was exteriorized and resected, leaving a double-lumened colostomy. Pathological report was gangrene of the colon, cause undetermined. Postoperatively the patient did well. Three months later bowel continuity was re-established, and the patient is well one year later and is incidentally cured of her chronic constipation.

Comment: This case illustrates a rather obvious diagnosis of unusual etiology.

Case 3. A 16-year-old white female entered the hospital with

a complaint of steady, moderately severe, upper abdominal pain and tenderness under her right rib cage of two days' duration. There had been no nausea, vomiting, constipation, genitourinary symptoms, or change in the color of her urine or feces.

Past history revealed that at age three-and-a-half she was found to have a large spleen. At age five she was found to be anemic and she had an episode of hematemesis. Soon thereafter she had a splenectomy. At ages six and ten she had further episodes of hematemesis, and a porta-caval shunt was attempted but could not be done because of a "cavernous portal anomaly." Later the same year hematemesis recurred and esophago-gastrectomy was done with subsequent control of hematemesis. The patient has continued to require vitamin B12 and parenteral iron because of anemia. As part of her follow-up, a cholecystogram had been done which had shown multiple stones.

Physical examination revealed a temperature elevation of 101.4 degrees and a pulse of 76. There was localized tenderness, direct and referred rebound tenderness, guarding, and muscle spasm under the right costal margin at the mid-clavicular line. A 4x6 centimeter mass could be outlined in this area. Bowel sounds and rectal examination were normal.

White blood count was 30,000 with 77 neutrophils and 18 band forms. The hemoglobin was 13.8 grams, hematocrit 40. The sedimentation rate was 37 mm/hr, and a urinalysis was negative.

The patient was operated upon with a preoperative diagnosis of acute cholecystitis. A soft 4x6 cm mass was found on the anterior surface of the liver which at the time was thought to be an abscess. The cavity was debrided and drained and cholecystostomy done with removal of many small gallstones. Pathologic diagnosis was infarction of the liver, cause undetermined. Postoperative recovery was uneventful, and the patient has had no further difficulty for one year.

Comment: This case illustrates an obvious diagnosis which was not substantiated at surgery, the etiology being instead a rare unrelated condition.

Case 4. A 31-year-old white male entered the hospital with a history of waking at 0300 hours with steady severe mid-abdominal pain radiating through to his back. He was nauseated and had vomited once. He had had a greasy stew for supper and had noted some fatty food intolerance in the past. Two years ago he had a similar episode treated with "needles" and hospitalization for 5 days.

Physical examination revealed a normal temperature, a pulse of 78, and a blood pressure of 140/90. Abdominal and rectal examination were completely normal. Bowel sounds were hypoactive.

White blood count was 14,400 with 89 neutrophils. Urinalysis was normal; a serum amylase was 258, repeated 53. Chest and abdominal films were negative.

He was placed on conservative management and in 24 hours he appeared more ill. Temperature rose to 101.4 degrees. White blood count rose to 43,800 with 94 neutrophils and 14 band forms. Abdominal examination revealed only slight generalized right upper quadrant tenderness and palpation gave the impression of fullness in the area. Laparotomy was performed with preoperative opinions divided between acute cholecystitis and ruptured appendix. At surgery a gangrenous gallbladder without cholelithiasis was found.

Comment: This case illustrates the fact that severe intra-abdominal disease can be present with minimal physical findings, and that acute cholecystitis can occur in the absence of cholelithiasis.

Case 5. A 22-year-old white female entered the hospital complaining of constant, moderately severe, right-sided abdominal pain of six days' duration. This had started as right lower quadrant pain, was not related to meals, was unrelieved



by enemas, and had suddenly become worse the evening of admission with radiation to the right upper quadrant, right flank, and right shoulder, aggravated by inspiration. There was nausea without vomiting. Past history revealed only indigestion during pregnancy.

Physical examination revealed a temperature elevation to 101.8 degrees and a pulse of 108. There was tenderness and guarding over the right side of the abdomen. This was more marked in the right lower quadrant but rebound was referred to the right upper quadrant. Bowel sounds were hypoactive; no masses were palpated. Pelvic and rectal examination showed only slight right-sided tenderness without localization. No costovertebral angle tenderness was noted.

The white blood count was 14,000, with 71 neutrophils, hemoglobin 12 grams, hematocrit 36. Urinalysis showed 6-12 white blood cells; chest and abdominal x-rays were negative.

Preoperative diagnosis was acute appendicitis, cholecystitis to be ruled out. At surgery the patient was found to have a normal appendix and gallbladder. The duodenum was found to be abnormally mobile. The first part of the duodenum was dilated and edematous and there was an acute angulation at the junction of the second and third portions. At this point an intussusception was found for a distance of about three centimeters, which upon reduction revealed an annular constriction at the point of origin. A duodenotomy was done to exclude the possibility of some intraluminal lesion after which the constricted annular area was bypassed by a side-to-side duodenostomy. Postoperatively the patient did well.

Comment: This is a lesion which theoretically is anatomically impossible due to the retroperitoneal fixation of the duodenum. Only thirteen cases have been collected from the world literature<sup>10</sup> and all have two features in common, abnormal mobility of the duodenum and an anatomical lesion acting mechanically at the lead off point. This case also presented these features. This case illustrates the rare unsuspected condition the surgeon must be capable of dealing with.

Case 6. A 49-year-old white male entered the hospital complaining of generalized abdominal discomfort of five days' duration, associated with constipation which was relieved by laxatives. Past history revealed no previous ambiguous abdominal complaints or operations.

Physical examination revealed an elevation of temperature to 99 degrees, a pulse of 100, and a blood pressure of 120/74. The patient was moderately obese and appeared in moderate distress. The abdomen was slightly distended and there was slight tenderness in both lower quadrants without muscle signs. Bowel sounds were normal, and rectal examination was negative.

White blood count was 14,100 with a normal differential, hemoglobin 14.6 grams, hematocrit 45. Urinalysis and abdominal x-rays were negative.

The day following admission the patient passed three liquid tarry stools and vomited a small amount of coffee ground material. Abdominal distention was more marked and bowel sounds became high pitched and hyperactive. Abdominal tenderness became more marked and generalized. It was felt that the patient was incompletely obstructed, through peptic ulcer could not be excluded. A naso-gastric tube was inserted and the patient improved, though melena persisted and small amounts of dark brown material were returned through the tube.

On the second day an upper gastrointestinal series was done and was normal. The third day the patient was much improved, passed brown stools, and esophagoscopy and gastroscopy failed to demonstrate an ulcer. Oral feedings were begun and the patient did well despite a low grade fever, until the seventh day when diffuse abdominal pain and distention recurred.

Because of the fever, bleeding, and obstruction a diagnosis of regional enteritis was entertained, and a barium enema was

obtained which was negative. By the following day the patient was much worse, and surgical consultation was obtained. Distention was much more marked, and there was now marked generalized tenderness, more in the right lower quadrant, with rebound. There was no muscle spasm, and bowel sounds were markedly diminished and high-pitched. Abdominal films revealed dilated loops of small bowel with fluid levels in the right lower quadrant. His fever had risen to 101 degrees and his pulse to 120. A repeat white blood cell count was 31,000.

A working diagnosis of ruptured appendicitis was made. At surgery a segment of distal jejunum and proximal ileum was found to be involved with patchy areas of gangrene, the mesentery of which was one inch thick with a brawny edema. A four-foot section of small bowel was resected and end-to-end anastomosis performed. The patient received anticoagulants postoperatively, recovered uneventfully, and is well now two years after his operation. Pathologic diagnosis was gangrene of the small bowel secondary to mesenteric venous thrombosis, cause undetermined.

Comment: This case illustrates a patient with another rare condition diagnosed at surgery and operated upon because of clinical findings compatible with a more common acute condition. It also illustrates the fact that occasionally extensive diagnostic procedures are unjustified.

### TREATMENT

If doubt as to diagnosis or operative indication exists, an approach to the management of the case which will be beneficial to both surgical and non-surgical conditions is valuable.<sup>11</sup> On such a regime harm is seldom done, and operative indications if present will soon become manifest.

1. Hospitalize the patient.
2. Obtain baseline vital signs and maintain an accurate record at frequent intervals.
3. Obtain a baseline complete blood count and repeat at appropriate intervals.
4. Maintain accurate intake and output records. If bleeding is in question, maintain an open vein with a large caliber needle. Repair any existing fluid or electrolyte deficit. Place in an indwelling catheter if the patient's ability to void is in question.
5. Insert a Levine tube and put the patient on continuous suction.
6. Withhold narcotics if possible; if not, keep an accurate record of dosage and time of administration.
7. Obtain a serum amylase.
8. Obtain an electrocardiogram if any suspicion of cardiac disease exists.
9. Obtain a chest x-ray and a flat and an upright abdominal film.
10. Type and crossmatch the patient.
11. Re-evaluate the patient at frequent intervals, every two to four hours, or sooner if change is noted in the patient's condition.
12. Withhold antibiotics until a working diagnosis can be arrived at and a plan of specific treatment initiated. Routine use of antibiotics in undiagnosed abdominal disease is probably the leading cause of current mortality in acute appendicitis today.<sup>12</sup>



## SUMMARY

Three hundred and ninety-two acute abdominal cases consecutively operated upon at William Beaumont General Hospital over the years of 1958-1959 have been reviewed and tabulated.

Commentary is made regarding medical causes of acute abdominal symptoms, techniques of history taking and physical examination, and evaluation of laboratory and x-ray data.

Six illustrative cases of unusual interest are presented in detail. Suggestions are made regarding the management of the doubtful case.

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## ANNUAL SESSION PROPHECY COMES TRUE

William B. Walsh, M.D. spoke on "Project Hope — A Pathway Toward International Peace" at the 106th Annual Session of the Maine Medical Association in 1959.

Project HOPE will be the subject of an hour long NBC-TV report to be shown on the network Tuesday, November 28, 1961, at 8:30 p.m., E.S.T. (Check local listings for the exact times in other sections of the country.)

This hour long show is the result of an attempt by NBC to bring the American people up-to-date on the efforts of the members of the health team aboard the S.S. HOPE I. Ralph Bellamy, a well known star of stage, screen, television and radio, and an expert camera crew were sent to Saigon, South Vietnam, to film actual sequences of the work going on aboard the S.S. HOPE I.

The film is being broadcast nationally through the efforts of Elgin National Watch Company, of Elgin, Illinois.

We hope that all the pharmacists of the country, as members of the greatest health team in the world, will suggest to their clientele that they watch this program. It is an excellent opportunity for pharmacists and the pharmaceutical industry, integral parts of the Project HOPE endeavor, to show what they are doing for the needy people of the world.

# The Current Concepts Of Urinary Continence And Micturition

MEYER EMANUEL, M.D.\*

One of the most intriguing bits of physiology is that of the urinary bladder. Patients who are incontinent or cannot void normally are cheerless. (Wet clothes with an ammoniacal odor make social equanimity very uncertain.) The therapeutic effort in these medical problems must obviously be backed by some concept of the means by which a normal individual retains the bladder contents or releases it voluntarily. There are gaps of knowledge. Nevertheless there is much to profit by in the voluminous literature. Our objective is to present as broad, yet as simple a picture as possible of bladder function omitting, where possible, confusing detail. While our focus of interest is related to patients, anyone may benefit personally from pondering introspectively one's own bladder function.

## ANATOMY

*The Internal Sphincter.* That the detrusor or smooth muscle meshwork of the urinary bladder is continuous with the entire female urethra or the male prostatic and membranous urethra is not a new idea. Vesalius recognized this continuity of structure.<sup>27</sup> The bladder muscle meshwork is roughly disposed in three layers,—an inner and outer longitudinal and a middle circular.<sup>12,30</sup> Anatomists, physiologists and surgeons have attempted to clarify the disposition of the muscle bands at the vesical outlet, but the varying descriptions and confusing nomenclature have promoted the conclusion that while there is an indefinite condensation of looping muscle bands at the vesical orifice, there is no distinct "internal sphincter."<sup>9,11,12,28</sup> Today the true sphincter of the bladder is considered the entire female urethra and the prostatic and membranous urethra in the male.<sup>12,30</sup>

*The External Sphincter.* Surrounding the more distal portion of the female urethra, and the prostatic apex and membranous urethra in the male, are the fibers of the striated musculature of the urogenital diaphragm (or triangular ligament). The portion immediately about the urethra is often spoken of as the "constrictor urethrae." This muscular structure adapted to brief unsustained constrictive action<sup>15</sup> upon the lumen of the urethra has been called the "external sphincter" in much of the past urological literature. Along with other perineal striated musculature it is innervated by the pudendal nerves and therefore subject to voluntary control. In the male some of the striated muscle extends upward

along the dorsum of the prostatic capsule like a saddle, its fibers mingling with those of the smooth muscle of the prostate gland. These fibers have been found as far up as the anterior lip of the vesical orifice and their muscle tone at this level may be significant.<sup>2,25</sup> In the female corresponding striated fibers are intermingled with the smooth muscle of the proximal portion of the urethra.<sup>27</sup> The external sphincter is thought to contribute its tone in maintaining closure of the more distal urethra but apparently more definitely in the male.<sup>1,2,7,9,12,25,26,30</sup>

*The Important Elastic Tissue of the Urethra.* In the smooth muscle of the detrusor and particularly in the urethral portion there is considerable elastic tissue.<sup>6,30</sup> Under the mucosa, and intertwined with the smooth muscle and elastic tissue is a vascular network which imparts to the urethra an erectile-like function.<sup>27</sup> The total effect of these structures is to maintain a constant springy tension upon the lumen of the urethra. For practical purposes the male and female urethra can be considered identical in structure and function.<sup>13</sup> In the male one has to visualize the smooth muscle of the bladder and urethra as continuous with that of the prostate gland. The glandular acini are simply interspersed among the dense intertwining smooth muscle bands.<sup>25</sup>

The disposition of the important elastic tissue in the two sexes requires a more detailed description. In the female it is more or less diffusely blended with the smooth muscle of the urethra and some of it is mingled with the striated fibers of the external sphincter.<sup>24</sup> In the male, in addition to general distribution in the entire length of the prostatic urethra, there is a very prominent condensation of the elastic tissue in the form of an obliquely disposed collar in the portion of the urethra just distal to the apex of the prostate gland and proximal to the level of the external sphincter. This portion of the urethra averages 9mm. in length and is the more proximal portion of what is known as the membranous urethra.<sup>6,24,25,26</sup>

*The Membranous Urethra of the Male.* This membranous urethra of the male is very important. Even among urologists there is some confusion on its extent. Actually it is that portion of the urethra beginning at the apex of the prostate gland and ending at the inferior or outer surface of the urogenital diaphragm after having traversed it. The dense ring of elastic tissue mentioned above surrounds its short proximal portion between the apex of the gland and the inner or superior surface of the diaphragm. When viewing the prostatic

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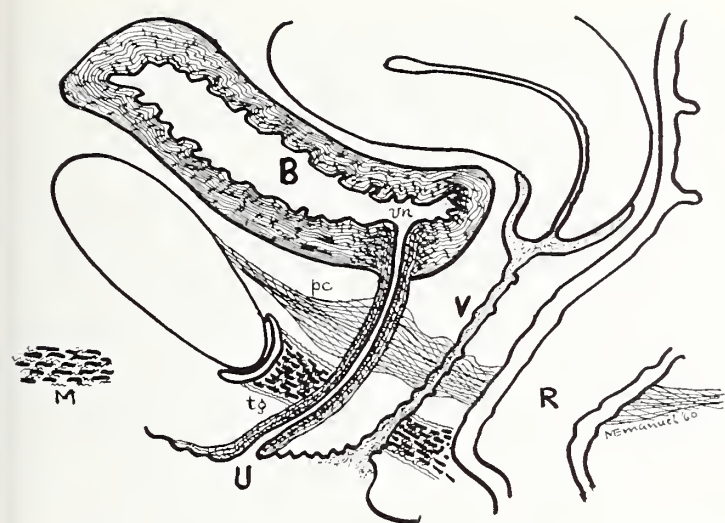


FIG. 1. Female urethra and related pelvic structures.

B; Bladder, U; Urethra, V; Vagina, R; Rectum, M; Detail of trigonal ligament representing striated muscle fibers with interspersed elastic tissue. vn; Vesical neck, pc; Pubococcygeus portion of levator ani, tg; Trigonal ligament or urogenital diaphragm.

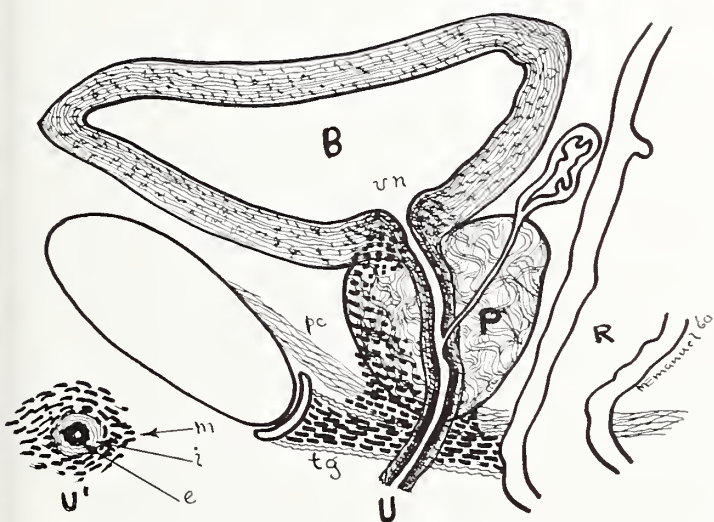


FIG. 2. Male prostatic and membranous urethra and related pelvic structures.

B; Bladder, P; Prostate Gland, U; Urethra consisting of a portion traversing the prostate gland and a short portion extending from its apex and through the urogenital diaphragm. R; Rectum, vn; Vesical neck, pc; Pubococcygeus portion of the levator ani, tg; Trigonal ligament or urogenital diaphragm. U'; Detail of the external sphincter portion of the urogenital diaphragm showing m; striated muscle, i; involuntary smooth muscle, e; innermost elastic tissue collar under the mucosa. (This is shown as a densely black ring.) This elastic tissue is also shown in the side view at the apex of the prostate and external sphincter. Also in the side view note how the striated muscle (heavy broken lines) extend along the dorsum of the prostate and into the anterior portion of the bladder neck.

urethra through an endoscope, the veru montanum is easily seen. The short length of urethra (about .8cm.)<sup>25</sup> just distal to it is the site of the underlying dense elastic tissue ring. Incontinence in the male, the result of damage to this portion of the urethra, will be discussed later.

*The Supports of the Bladder and Urethra.* In both male and female the pelvic musculature along with the

associated ligaments and fascias comprises the "floor" of the pelvis. These structures support the pelvic organs in proper relationship to each other. The most important of these striated muscle structures are the levator ani and the urogenital diaphragm. In the male, the bladder, prostate gland and rectum are firmly supported and seldom lose such support.<sup>4</sup> In the female this is not true. As a result of childbirth, surgery, and atrophic changes incident to the menopause, or congenitally, the pubococcygeus component of the levator in particular, relaxes and sags, allowing the bladder, urethra, uterus, and rectum to assume abnormal, low, distorted positions. This results in variable symptomatology. Stress incontinence which is self-explanatory may be one such symptom. Much of the gynecological literature calls attention to the relationship of the proximal portion of the urethra to the floor of the bladder. The angle formed by the plane of the floor of the bladder and the posterior aspect of the proximal urethra is called the posterior vesicourethral angle.<sup>16</sup> This is normally more or less a wide angle which flattens out to a straight line when the bladder and urethral support is poor, particularly when stress increases intra-abdominal pressure which in turn is transmitted to the pelvic structures. The vesical neck becomes funnel-like and the urethra shortens—which conditions favor easy escape of the bladder urine during such stress.<sup>21,27</sup>

With this perfunctory description of the anatomy, we hope it will be possible in the succeeding section to understand the mechanisms of continence and micturition.

## CONTINENCE AND INCONTINENCE

*The Mechanism of Continence.* Urinary continence is primarily an unconscious or involuntary act.<sup>6</sup> The smooth muscle, elastic tissue and the vascular erectile network form a structure complex which can be likened to the novel Chinese woven finger cuff.<sup>1</sup> If a finger is inserted at each end of such a cuff the greater the pull by the fingers the more tightly they are held in a tense grip. The same principle is applied to the electric cable pullers made of steel mesh. Similarly when the urethra is stretched or elongated, its lumen becomes narrower and tighter and acts as a substantial obstruction to the flow of urine out of the bladder. Active sphincteric contraction is not involved. The reverse of this takes place when the bladder contracts. Its longitudinal fibers extending into the urethra shorten the latter and hold wide the vesical neck.<sup>1</sup> Normally the resting bladder and urethra are so supported that the urethra is in an attitude of stretch. It should be noted that the constant tonic action on the part of the smooth muscle and elastic tissue is involuntary and consumes practically no energy.<sup>3,12</sup> Further, what contributory tonic action upon the urethra is afforded by the perineal somatic musculature is not conscious.<sup>5</sup>

Lapides<sup>12</sup> carried out dog experiments to illustrate the mechanism of continence. He made the urethra accessible and cut it just distal to the external sphincter.



Fluid did not escape. He snipped off successive small portions of the urethra until it was only 2 cm. long, at which point bladder fluid escaped. In other experiments he applied fine guy sutures to the end of the urethra, which had been cut proximal to the external sphincter. He increased the intravesical volume and pressure gradually till the fluid escaped. Pulling on the guy sutures at the end of the urethra elongated and narrowed the urethra sufficiently to prevent further escape of fluid. He drew a parallel between the urethra and blood vessels in which the force exerted by the wall is directly proportional to the tension in the wall and inversely proportional to the radius of the tube (La Place's Law). Keeping the urethra long by stretching increased tension and narrowed the lumen. The tonic tension created by the smooth muscle and elastic tissue (without benefit of nerve supply or use of energy)<sup>1,3,12</sup> and the turgidity of the vascular meshwork and healthy mucosa<sup>12</sup> greatly promote the closure of the lumen. When the urethra is shortened the lumen widens, the tension falls and escape of urine requires only slight force from above.

*Clinical Observations on Continence. Two Gates.* From what has been described of the nature of continence, it can be seen that so long as the urethra is fairly intact, sufficiently long and stretched, its lumen surfaces are well coapted and no urine will escape. This is well illustrated by some previously puzzling clinical observations. In the male, as a result of a transurethral resection or an enucleation of hypertrophied prostatic gland tissue, the vesical orifice usually designated as the "internal sphincter" (but which we have shown is not a sphincter structure), is cut away, torn, dilated, or otherwise damaged; but incontinence does not result so long as the distal portion of the male urethra, more specifically the membranous portion and its collar of elastic tissue is not damaged.<sup>5,6,9</sup> Also in the male the reverse is true. If the external sphincter and the membranous urethra with its elastic collar are held open with an instrument, or destroyed as by accident, there will still be no incontinence if the bladder neck portion of the urethra is sound.<sup>1,5,6,9,11,26</sup> The same situations can be duplicated in the female. A slightly relaxed bladder neck or one that has been conservatively resected transurethraly may not result in incontinence if the more distal urethra is intact, and as in the male, destruction of the distal urethra will not cause incontinence if the proximal bladder end of the urethra is uninjured. Thus, along with tension, narrowness of lumen and length of urethra, either the distal and proximal portions of the urethra are capable of maintaining continence by themselves.<sup>20,29</sup> It appears, however, that in the female the more distal portion of the urethra is less reliable in obstructing flow than the membranous urethra with its elastic collar in the male.<sup>12</sup>

*Stress Incontinence in the Female.* At this point it is propitious to elucidate upon incontinence in the female. When the pelvic floor is damaged or relaxed as

### **Therapy for stress incontinence consists of a prescribed program of exercises for the pelvic musculature in the majority of patients . . .**

a result of childbirth, surgery, atrophy of menopausal endocrine deficiency, or congenitally, the base of the bladder and the proximal urethra under stress are forced to descend to a lower position. This shortens the urethra and widens its proximal portion, which situation reduces the intraluminal tension and predisposes to incontinence.<sup>12,27</sup> The clinical picture is "stress incontinence" characterized by escape of urine from the bladder with any body activity that increases intra-abdominal pressure (e.g., coughing, sneezing, laughing, emotional reactions, rising from a chair, etc.). However, attention is called to the observation that in some women, in spite of a descent and funneling of the bladder, there is no incontinence.<sup>14</sup> Lapidès believes that an abnormally short urethra in the standing position is the basic cause of such incontinence.<sup>14</sup> Therapy for stress incontinence consists of a prescribed program of exercises for the pelvic musculature in the majority of patients,<sup>11</sup> while in others, surgery is done which has its objective improvement of the support of the urethra and bladder and lengthening and consequent narrowing of the urethra.<sup>6,14,16,27</sup> Lapidès contends that actually only support of the anterior wall of the urethra is required and that the concept of support for the posterior aspect should be discarded.<sup>14</sup> He further feels that "stress incontinence in the female is a urological and not a gynecological problem since it can occur without any defect in the genital tract and can be completely alleviated by anterior urethropexy in the face of unrelieved procidentia urethrocele and cystocele." Postmenopausal incontinence may be improved by administration of estrogenic hormone. It is believed that the hormone reverses the atrophy, particularly of the urethral mucosa.<sup>1,14,27</sup>

*Male Incontinence Results from Prostatic Surgery.* Males become incontinent chiefly as a result of prostatic surgery which has destroyed the vesical neck area and at the same time the level of the external sphincter with its adjacent smooth muscle, and elastic tissue collar of the proximal membranous urethra.<sup>6,9,24,26</sup> Such damage is unintentional but may follow transurethral resections and occasionally with techniques of simple suprapubic or perineal enucleation.<sup>25,26</sup> In radical prostatectomy, whether perineal or retropubic, the entire prostatic urethra is removed and only the bladder neck and the very short membranous urethra remain. Hock<sup>9</sup> has stated that regardless of approach to the gland, a high incidence of urinary incontinence should be expected following total prostatectomy. He cites the following figures for the perineal method: Twinem and Davalos, 21.6% partial and total incontinence; Jewett, 12% permanent incontinence; Higbee, 7 of 14 patients had partial or total incontinence. He mentions eight successive cases of incontinence after retropubic total



prostatectomy and four others which were improved by a fascial sling. Following prostatic surgery the state of the membranous urethra and its elastic tissue determines the presence or absence of incontinence and not the state of the striated external sphincter. Ability to contract the external sphincter voluntarily can be easily demonstrated but is not evidence of continence. Such contractions are vigorous but brief and unsustained.<sup>6,9</sup> While surgery is of benefit in the female with stress incontinence, the type of incontinence which may follow prostatic surgery is itself not easily amenable to surgery. So far the picture has been considered discouraging and disenchanting.<sup>6,9,12,26</sup>

### MICTURITION

Perhaps for years to come there will remain some degree of mystery about the mechanism of micturition despite the new advances in knowledge upon which the current concepts are based. One has only to read the descriptions in the older physiology books and essays on the subject, each with its own interpretation of details, to conclude that the picture is probably not fully unfolded. Much is still confused. A focus upon the modern views can be gained by calling attention to the fact that in one way or another the somatic musculature of the abdomen, diaphragm, and perineum are related to voluntary initiation and cessation of micturition. One view holds that these muscular movements are not actually needed<sup>5,11</sup> while the other contends that voluntary control of urination is not possible without them.<sup>21,22</sup>

*The Nerve Supply to the Bladder.* It is not necessary to discuss in fine detail the innervation of the bladder to acquire the general ideas presented by the prevailing views on micturition since here too there are areas of incompleteness. The gross features, however, are fairly well accepted.

The two pelvic nerves (or *nervi erigentes*) carry fibers of the parasympathetic reflex arc of the bladder. The roots of these nerves originate in the second, third, and fourth sacral segments and are subject to control by impulses from the "higher centers." By the latter term is meant the cerebral and subcortical areas of the brain. It is also thought that by way of sensory pathways in the cord we become aware of fullness, pressure and desire to void (*fasciculus gracilis*), and pain and temperature (*lateral spinothalamic tracts*).<sup>15</sup>

Less important is the sympathetic supply derived from the thoracolumbar system and reaching the bladder by way of the presacral nerve which divides into a right and left hypogastric nerve (or plexus). While this supply causes contraction of the trigone<sup>1</sup> apparently helping in a minor way in micturition by depressing the posterior lip of the bladder neck, and in constricting the ureter orifices and blood vessels,<sup>28,30</sup> it has been generally concluded that it is not essential to bladder function.<sup>12,15,18,30</sup> Further, the belief of the recent past that there was reciprocal antagonistic activity between

the sympathetic and parasympathetic supplies to the detrusor and "internal sphincter" has been discarded.<sup>30</sup> However, the sympathetic supply will require further clarification. Experiments have shown that some transient bladder contractions followed by relaxation, can be effected by stimulation of the hypogastric nerves.<sup>7,10</sup> For completeness, it should be mentioned that the bladder itself has an intrinsic functional mechanism independent of the cord or brain, which is not well understood.<sup>18</sup>

Directly or indirectly the striated perineal musculature has a role in the mechanism of micturition. It is innervated by the somatic fibers originating in the second and third sacral segments and the pathways constitute the distribution of the pudendal nerves.

Effector or inhibitory motor impulses from the higher centers, therefore, can reach neurones in the sacral cord to act on somatic and parasympathetic innervations described above. It can also be seen that motor impulses may reach segments of the cord above the sacral level to effect the somatically innervated diaphragmatic, abdominal and other musculature required to create increased intra-abdominal pressure.<sup>22</sup>

*Voiding in Infant and Adult.* Voluntary voiding implies emptying of the bladder as a result of a willful decision on the part of the individual. So fundamental is this attribute of the normal subject that it has been referred to as a birthright. An infant, however, does not void voluntarily. The bladder fills and empties itself involuntarily many times, as diaper-conscious parents know. Yet such voiding is not abnormal and does not constitute incontinence.<sup>22</sup> In the infant, what is lacking is integration with the higher centers which are "regulatory" or "inhibitory" to the bladder on the one hand and capable of sending down voluntary impulses which eventually cause the bladder to contract on the other. Before this integration takes place (usually between the ages of two and one-half and four years) the bladder evacuation is controlled by means of the stretch reflex.<sup>21</sup> This means that as the bladder fills the smooth muscle fibers of the detrusor which are in a state of tone are slowly stretched. A point of tonic resistance to the stretching is reached, which triggers off an automatic detrusor contraction without benefit of a voluntary command from the brain.

We have mentioned that the feature of movement of perineal and other musculature in connection with micturition has not been fully appreciated in most descriptions. Another point which is not often stressed is that a normal individual can start and stop the urinary stream at any point in the process of emptying the bladder. For the adult, it is not necessary to have a bladder filled to capacity to initiate voiding nor completely empty to cut off the stream. The stretch reflex does not operate as in the infant. At the point where contraction would occur, the stretching instead, registers in consciousness. If the individual decides not to void when the sensation of fullness is felt, both volun-

tary and involuntary impulses from the higher centers relax or inhibit the bladder to permit it to hold a greater volume.<sup>5</sup> The nature of this inhibition may have more than one interpretation.<sup>22</sup> Eventually a degree of stretching may be reached which is so extreme that it becomes difficult to restrain the automatic reflex detrusor contraction such as occurs in the infant. Under ordinary circumstances, an individual empties his bladder voluntarily before such a situation is reached.<sup>17,22</sup> Psychogenic influences can alter bladder function.<sup>5</sup>

*The Mechanical Features of Voiding.* Before the two chief opposing theories of micturition are described it would be well to note that in active voiding the bladder neck widens like a funnel and the urethra is shortened. Immediately after, the distal urethra at the level of the external sphincter dilates or opens and the bladder contents escapes. Fluoroscopic studies show that the bladder contraction starts following active relaxation of the perineum and descent of the bladder neck to a lower level.<sup>22</sup> The opening or relaxation of the external sphincter is thought to occur as a secondary reflex,<sup>5</sup> or possibly along with the relaxation of the rest of the perineal musculature. This point does not seem to be clear.

*One Theory — the bladder is subject to the will.* Lapidès and his co-workers subscribe strongly to the views of Denny-Brown and Robertson and has sought to prove that the smooth muscle of the bladder is definitely subject to the will,<sup>3,5,26</sup> and that the voluntary muscle activity at the perineum and elsewhere can be categorized as merely "associated" and not essential movements. He observed successful voiding in normal adults after apparent paralysis of all somatic musculature with curare-type drugs. He concluded that neither perineal, abdominal, nor diaphragmatic muscle action is needed, although a relaxed perineum makes voiding easier.<sup>13</sup> He also conceded that the stream could be stopped more quickly by the sudden, voluntary elevation of the perineal musculature and contraction of the external sphincter. Without the latter, micturition could be stopped only after a delay of up to 15 seconds in contrast to the usual two seconds.<sup>11,12</sup>

*The Other Theory — the bladder cannot respond to the will.* The opposite school of thought is represented chiefly by Muellner, who believes that the voluntary musculature as described above is part and parcel of the mechanism of voiding. He denies strongly the implication that the bladder is an exception to the accepted rule that smooth muscle is involuntary. He questions the soundness of a theory which holds that smooth muscle of the bladder responds to the will where elsewhere in the body this is not held to be true.<sup>22</sup> He has suggested that the experiments of Lapidès with the paralyzing drugs are misleading and that the voluntary musculature, particularly of the perineum, was not necessarily completely out of action.<sup>22</sup>

Taking his view that the bladder being made up

of smooth muscle therefore cannot respond to the will, how does voluntary micturition take place? Muellner's explanation is that the voluntary depression of the perineal floor and along with it the bladder neck, triggers a second sacral reflex activity in the parasympathetic pathways causing contraction of the detrusor and consequent voiding. He suggests that this is a separate mechanism interposed between the will and the bladder. In reverse, voluntary elevation of the perineal floor again reflexly cuts off the bladder contractions and stops micturition. Thus the voluntary aspect of micturition is satisfied without making exceptions to the rule that smooth muscle is not subject to voluntary control.<sup>19,22</sup>

Most simply stated, therefore, one possible explanation for the mechanism of voiding is that the bladder contracts as a result of voluntary impulses from the brain acting on the parasympathetic motor pathways of the sacral cord center of the bladder and that somatic musculature aids the process but is not absolutely necessary. The other is that the voluntary impulses from the brain act first on the somatic musculature, particularly that of the perineum, whose movement releases the motor impulses in the same parasympathetic pathways of the sacral cord center. In this view the somatic musculature is of direct importance.

#### SUMMARY

An attempt has been made to bring to attention the currently prevailing views on the mechanisms of urinary continence and micturition. The field has many points of contention. The bladder is actually one structure continuous with the entire female urethra, and the prostatic and membranous urethra of the male. This urethral extension of the bladder is the true sphincter whose more distal end has, in addition, encircling striated muscle fibers. There is no actual "internal sphincter" at the bladder neck. Continence is the result of a tightly closed lumen of the urethra maintained in this state by its tautness and length; by its smooth muscle and elastic tissue tension, by the normal mucosa, and to some degree by the tone of the more distal striated encircling fibers. Shortening of the urethra funnels the bladder neck portion and reduces considerably the intraluminal tension. In natural voiding this change is promoted by the lowering of the bladder neck voluntarily. In women, stress incontinence is considered to be due to poor support of the bladder base and urethra. Possibly it is due only to a very short urethra. In the male, incontinence results chiefly from prostatic surgery which destroys the elastic tissue of the membranous urethra, and is almost impossible to cure. Stress incontinence in the female frequently responds to conservative and surgical measures.

The current concepts of voluntary micturition fall into two schools of thought. One holds that the bladder, though made up of smooth muscle, contracts as a response to voluntary impulses from the brain. Asso-



ciated with the bladder contractions are somatic muscular movements, chiefly of the perineum, which are held to be unessential to the basic process of voiding, though helping it by relaxation of the perineum on the one hand and cutting off the stream rapidly on the other. The second theory suggests that the somatic musculature, particularly that of the perineum, first responds to the voluntary impulses from the brain and then secondarily, by its motion, triggers off the bladder contraction or stops it. The essence of this view is that smooth muscle cannot respond to the will.

Which view will prevail, time will determine. In any case, we have attempted to draw a focus at least upon the area of current controversy.

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## U.S. LEADS IN MEDICAL SCIENCES

Never before in the 999 centuries of man's previous existence on earth has the standard of medical care been higher. Never before have we had the skills and the tools to cope with disease more effectively. Never before has progress in the health sciences come more rapidly. Whether or not we are ahead of Russia or the rest of the world in science generally, I am not qualified to judge. But I can say without fear of contradiction that we lead the world in the medical sciences, the invention of new and better drugs, and the provision made for the physical and mental well-being of our American people. — Theodore G. Klumpp, M.D., President, Winthrop Laboratories, to Massachusetts Medical Society.

# A Mucocele Of The Appendix Of Unusual Size

## Case Report

SAMUEL R. WEBBER, M.D.\* and H. A. BIRD, M.D.\*\*

Mucocele of the appendix is an uncommon lesion although it has been known since described by Rokitan-sky in 1840 and Virchow in 1863. Woodruff<sup>1</sup> and Mac-Donald of the Mayo Clinic in 1940 reported its incidence as 0.3% of appendectomies for a period of 24 years at that institution. Palmer et al found it occurred in 2.3% of 1000 appendectomys.<sup>2</sup> Usually the mucocele is not extraordinarily large. In a series of 13 surgical or autopsy cases reported by Coakley<sup>3</sup> the largest measured 13 cm in length x 2 cm in diameter. The following case was encountered at the Charlotte County Hospital, St. Stephen, New Brunswick, and seems worth recording because of the unusual size of the mucocele.

R.E., Charlotte County Hospital No. 59-2 156 Age 73 September 1959

F.H. Not Contributory.

P.H. Not Contributory.

P.I. This patient has had epigastric distress after meals for many years. In March 1959, X-Ray study of his gastro-intestinal tract disclosed an ulcer in the lesser curvature of the stomach. He was given appropriate medical treatment by his local doctor with symptomatic improvement. However, five months later, he returned to the hospital for re-study.

P.E. A tall, well developed, but lean elderly white man, mentally clear, cooperative, not acutely ill. His color is good and he does not appear to be malnourished.

Eyes: Pupils are equal, regular and react to light and accommodation. No jaundice.

Ears: Hearing normal. Drums negative.

Nose: No deformity or obstruction.

Mouth: Tongue clear and can be extended in mid line and without tremor. Patient is endentulous.

Neck: The thyroid is not enlarged. No cervical adenopathy.

Chest: The left chest is rotated forward by deformity of the spine.

Heart: P.M.I. 5th space, nipple line, Cardiac dullness not increased to percussion. Sounds of good quality, regular, no murmurs. B.P. 120/80.

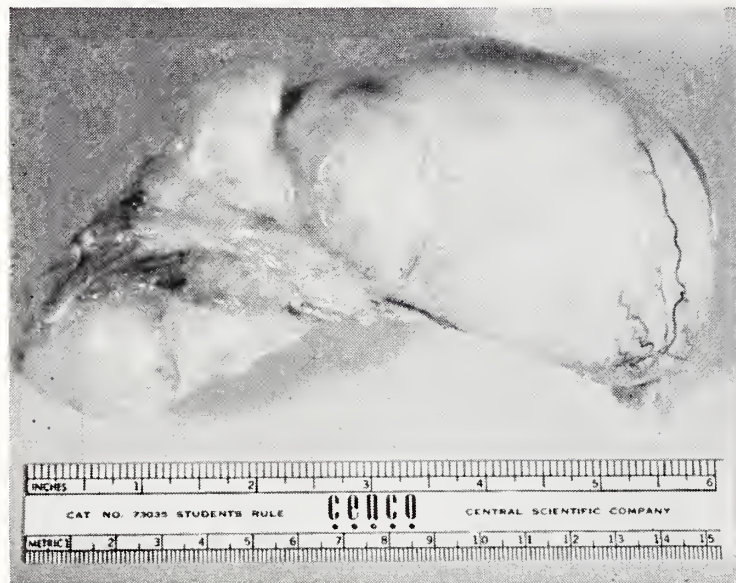
Lungs: There is dullness in right upper lobe front and back, over this area breath sounds are diminished. No râles. P.N. & B.S. normal elsewhere.

Abd: Scaphoid, soft, and not distended. No tenderness. The epigastrium is clear. In the right lower quadrant, region of the Caecum, there are two firm, rounded, elastic, non-tender egg sized masses, although distinctly separate laterally, they are apparently joined medially. No herniae noted.

Rectal: The prostate is moderately enlarged. No nodules are noted. No other mass is felt.

Reflexes: Knee jerks are present and equal.

Spine: There is moderate scoliosis.



Laboratory Findings: Hemoglobin 12.6 grams. Hemotocrit 44.4% W.B.C. 8,000. Differential: Eosinophiles 3%. Segmented 78%. Lymphocytes 12%. Mononuclears 7%. Red cell morphology normal.

Urine: Clear 1.011 No albumin, no sugar. Sediment: 1-3 H.P.F. R.B.C. 2-3 H.P.F. No casts. Blood urea nitrogen 20 mgm%. P.S.P. 24.5% excreted in 2 hours. Fasting Blood Sugar 124 mgm%.

X-Ray Examination: Gastro-Intestinal Examination:

The sharply outlined ulcer demonstrated on previous films (March 31, 1959) is not readily made out because of more extensive and diffuse infiltration into the wall of the stomach. Barium enema shows normal colon.

Chest: A moderately dense shadow is seen in the right upper lobe. The center of this shadow shows an area of decreased density. The horizontal fissure is retracted to the right. The right hemi diaphragm is elevated. The right costo-vertebral angle is obscured. Remainder of lung fields is clear. Heart and aorta are normal. Hilar structures are not remarkable.

Opinion: The ulcer demonstrated March 31, 1959 has extended and appears now definitely infiltrating. A chronic pathological condition of the upper lobe of the right lung is demonstrated. This suggests a metastatic carcinoma of the lung, although tuberculosis cannot be ruled out.

Comment: X-Ray evidence suggests that the lesser curvature ulcer first noted March 31, 1959 is extending and is probably malignant. In spite of patient's subjective improvement, exploration seems indicated. The undiagnosed tumor in the right lower abdominal quadrant also favors operation. The lesion in the right upper chest is considered to be healed tuberculosis on clinical grounds in spite of X-Ray opinion.

Preoperative Diagnosis:

- (1) Malignant Ulcer of Stomach
- (2) Tumor of Caecum

Operation: The lesser curvature of the stomach was adherent at approximately its mid-point to the under surface of the liver. When freed, the serosal surface was puckered and scarred as if an ulcer had healed. No tumor of stomach or ulcer was de-

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rected by inspection or palpation. A 6-inch gastrostomy was done and interior of stomach was inspected. No gastric lesion was disclosed. The gastrostomy was closed. Further exploration disclosed a tumor of the appendix approximately 20 cm long x 7 cm at its widest point. It was composed of firm, elastic, whitish, amorphous material. This was removed and the abdomen closed.

*Post Operative Diagnosis:*

- (1) Healed Gastric Ulcer
- (2) Tumor of Appendix. Question Mucocele. Question Carcinoid.

*Pathological Report:*

The specimen (see photo) consisted of a large oblong cystic structure which measures 19 cm in maximum length and 7 cm in maximum width. It is slightly curved, and grossly nodular. The surface is smooth and glistening. The wall is thin being 1-2mm in thickness. The lining is smooth and the lumen filled with coagulated gray and chalky mucoid material.

*Diagnosis:*

*Mucocele of the appendix.* This is undoubtedly the largest seen here and according to the information available, one of the largest ever recorded.

SUMMARY

An unusually large mucocele of the appendix is reported. It is suggested that in the differential diagnosis of palpable tumors in the right lower quadrant of the abdomen, mucocele of the appendix should not be forgotten.

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## Fight TB



## Use Christmas Seals

# "Changing Times"

Some recent legal developments of interest to lawyers and doctors

HERBERT E. LOCKE, Esq.

## PRELIMINARY

My background is one of interest in both professions, law and medicine. I took pre-med in college, then shifted to law because first the responsibility in medicine appalled me and second, because I became interested in the forensic when on a debating team. I honor my own profession. I respect its ideals. But, nearly fifty years out of college, I still think medicine offers perhaps, the greater opportunity for service to mankind. Consequently, I am interested in and glad to discuss a few of the problems confronting both our professions, law and medicine, as I see them today.

## GENERAL MEDICO-LEGAL PRINCIPLES

I don't propose to discuss them as such. Much is available to you these days, such as outlining those principles and illustrating their application. In the academic year 1957-1958 twenty seven accredited law schools (out of 129) offered medico-legal courses even including lectures on general anatomy, physiology and pathology. Numerous published articles in medical and legal journals are available, as are programs on Radio, T.V., and movies, including those sponsored jointly by A. B. A. and A. M. A. Two of these were shown at our last Maine State Bar Association meeting; August 1959. For an intriguing and informative look at medicine as practiced today — with its mixture of devoted and talented service, liability to error, and exposure to malpractice claims, I recommend to my lawyer friends a very recent Book of the Month Club novel, "The Final Diagnosis" by Arthur Hailey; Doubleday, 1959. I think it would interest our doctors, too.

Anybody interested in my ideas on general medico-legal principles, for what they may be worth, will find them in an article "Medicine and The Law" volume 44 of The Journal of Maine Medical Association, issues of March, April and May 1953.

## RECENT DEVELOPMENTS

I would like to call your attention to four or five of the novel proposals, some of them rather startling, which both our professions are faced with today and must assist in answering in this era of humanitarianism and social legislation: *Compensation irrespective of fault in "poor result" cases against doctors*, as in the industrial accident field; a *client indemnity fund for the*

*lawyer's clients*; a *panel of experts for the disposition of malpractice claims against doctors*; the increasingly insistent demand for a *change in the law regarding insanity as a defense in criminal cases*; and the *recently expanded concept of fraud in income tax cases*, its attack on our pocket books and even our right to practice our professions.

It will be interesting to note the respective reactions to some of these new ideas by the two professions, bearing in mind the traditions we attribute to them.

## THE LAWYER'S STARE DECISIS

The American lawyer is trained to hold fast to precedent. The sacred doctrine of "stare decisis" must prevail. To be sure, new situations of fact arise in our complex society. No two cases are factually the same, we say, hence, we have different views as to the application of the law. And resultingly, law suits. Nevertheless, we, generally speaking, cling to the essential principles of English common law, whence our system of jurisprudence came. Otherwise, we claim, we could not advise our clients intelligently. Confusion would result. Naturally enough, after years of declaring legal truths from a study of what some Judge said in England two hundred years ago or what one said in the United States one hundred years ago, we hesitate to accept a doctrine of law or new method of procedure which seems to us contra to those time-honored precedents.

To be a bit facetious, it "was not ever thus," you know. Shortly after the American Revolution, a New England Judge declared in open court, it is said; "I decline to listen to any more citations of old moth-eaten English common law." But I imagine he was prompted by the same animus as was the Judge in a Southern State. It was soon after the Reconstruction Period with its carpet baggers and other distressing humiliation. The Judge held that it was an implication of depravity and was libelous to call a man a Republican.

Even as recently in our legal history as 1914, our Maine Supreme Court caused some legal eyebrows to rise by flatly rejecting a principle of common law as declared by the Mother State of Massachusetts.

*Laughlin vs. Portland*, 111 Me. 486 — The question was the constitutionality of a new statute (now R. S. Ch. 91, Sec. 111) enabling cities and towns in Maine to go into the fuel business, theretofore considered a



private enterprise not "tinged with a public interest."

Our Court held that the statute was constitutional and that Maine municipalities could invade this field of private enterprise.

As Associate Justice put it at the Centennial Meeting of the State Bar Association in 1921, poking fun at the Chief Justice:

Up to that time this State of Maine had always blindly followed its Mother Commonwealth of Massachusetts in everything. Massachusetts had browntail moths, and the next year we had them here. Massachusetts had influenza, and only a few months later we got it. Massachusetts had Ponzi, and we had to send Judge Hale up there and shut him up for six years. It was only necessary for a lawyer in arguing a case, to say, "Here our Mother State has decided this question," and the Court would reply, "Them is my sentiments too." And in the course of years the Supreme Court of Massachusetts having decided almost every conceivable question in one or more ways, some of our opinions consisted of little more than ditto marks. But in this case of *Laughlin vs. Portland*, for the first time counsel in vain, with eloquence and force, urged upon the Court that "The Mother says that this is unconstitutional." And for the first time our Court got up on its hind legs and said, "Mother be damned."

Except for such declarations of independence — and those cases wherein to reach a desired conclusion our opposing counsel (and it is whispered), sometimes the Court has relied upon a distinction without a difference, — we lawyers have borne aloft our banner: *stare decisis*.

I recall a time some years ago I tried to persuade a Superior Court judge in Maine to adopt what I argued to be a more enlightened view on a point of evidence in the trial of a jury case before him. His reply: "Well, I guess we won't try out any new ideas."

Still, we lawyers are becoming more amenable to change. Commenting on a proposal to abandon the old common law rules of pleading and the adoption of less technical rules of procedure, patterned on the rules in Federal Court, one of our own Chief Justice's said in the course of remarks at our annual meeting in 1957: "The law is not static. It is based upon human experience, not alone of the past but of the present as well." And following his lead, we have worked out a set of New Rules which go into effect December 1, this year (1959). I doubt very much that this would have been possible even ten years ago. So despite our "*stare decisis*," we lawyers may be receptive to some of the recent proposals in the field of doctor-lawyer relations.

#### THE DOCTOR AND HIS "MUTARE DECISIS"

Now, consider the doctor and his reaction to a new idea in his field of service. His is a more inexact profession. Constant research, discovery, often times by chance, gives him new weapons in his battle against disease resulting in continuous change in therapeutics and in surgical procedures. For instance, antibiotics for

dread pneumonia, for which he had no specific and which cost the lives of thousands of patients.

Or take our most common surgery: excision of appendix. The surgeon who operated on me for that forty odd years ago, would have been accused of malpractice, had he let me out of bed within ten days and a breakdown of the incision or some other untoward incident had occurred. Today, barring some unusual condition, he would have me up and walking around as soon as the effects of anaesthesia were dissipated, a matter of hours. The calculated risk overwhelmingly favors his doing so, today.

The doctor's mind is conditioned to accept change, sometimes radical change, in the applicable principles and procedures. As against the lawyer's "*stare decisis*," the doctor has his "*mutare decisis*."

Probably in making this point I belabor it. Not all lawyers resist change. Not all doctors welcome it.

#### CHANGING TIMES

With this background, let us note those four or five recent proposals I mentioned. Although we haven't heard much about them in Maine, they are being vigorously debated in medical and legal circles elsewhere.

#### DISPOSITION OF MALPRACTICE CLAIMS AGAINST PHYSICIANS

The past three or four decades have seen a substantial increase in such claims, very substantial in some states, California for instance. Most of you probably saw the series of articles by one Silverman in the Saturday Evening Post last spring. Some thoughtful persons in both our professions think there is a problem requiring solution, a short-cut. What solution? Two in particular are being seriously discussed.

#### COMPENSATION IRRESPECTIVE OF FAULT

The pattern is that of the Workman's Compensation Laws our American states started taking from Western Europe around the turn of the century (Maine in 1913 as I recall). Let industry bear the burden of industrial injury regardless of whose fault it is or whether it is anybody's fault, but reduce the measure of compensation to an amount industry can bear, by insurance or otherwise, and pass the cost on to the ultimate purchaser of industry's product.

As applied to the medical profession:

For every "poor result" a money award to the patient, made by a medical administrative agency, say the Grievance Committee of the local medical society, paid from insurance carried and paid for by the physician involved. This should be payable whether there was malpractice or not. In short, liability without fault, following the theory of the Workman's Compensation Laws.

You immediately think of numerous objections. Would either profession in Maine support such a pro-

gram? The idea is being debated in medical and legal journals. It is being seriously considered in some areas.

And, after all, something approaching precedent for it is developing in other fields:

#### AUTOMOBILE LIABILITY INSURANCE

Not too many years ago, it was vigorously opposed on the ground that it would encourage careless driving. Today it is accepted; in fact required in many states. And compensation through insurance without fault of the driver seems to be on the way. Several decades ago, Elmer Sawyer, in his time a well-known commentator on insurance, seriously suggested that it was coming. (A former small-town lawyer in North Anson, Maine, now deceased, he went on to Boston, then to New York to head a prominent law firm in the insurance field, and he was highly respected. One of his published books became a Bible in the insurance field).

Within a year a highly respected Judge of the New York Supreme Court, said in a speech before the Association of the Bar of New York that the question is rapidly becoming one of whether the public will be better served by taking automobile accident cases out of the courts and placing them in some administrative tribunal where they would be handled like Workman's Compensation cases with fixed schedules for injuries and no necessity of proving negligence.

A. B. A. Journal volume 45, No. 7, July 1959. — The fact is that we already have payment without fault to an extent now in our usually purchased so-called "liability policy": medical payments of \$500 or more for each person injured, if an occupant of your car, and to a limited extent to some others.

I have been driving since 1910, and it happens that I have never had an accident. But last summer after I had parked my car and got out, attorney Sam Collins got out of the rear seat, caught his thumb in the door, fractured it and was paid by my "liability insurer" for his resulting doctor's and hospital's bills. Now when do we take the next step, *compulsory payment* by the automobile driver or owner or his insurer regardless of any fault on anybody's part?

#### ATTORNEY'S FEES

Incidentally, the judge in that speech of his pointedly referred to the matter of attorney's fees and stated that the majority of statements of contingent fees filed by attorneys for plaintiffs in his Court called for payment to the attorney of 50% of the recovery. And that there is unquestionably a tremendous gap in the percent of recovery charged in liability cases, as compared with Workman's Compensation cases. I recall that the alleged heavy expenditure for attorney's fees in law suits for industrial injury was one of the arguments urged for the adoption of the Workman's Compensation Laws. It would likely appeal to the public as a powerful argument for limited compensation irrespective of fault in the field we are now considering.

#### CONTINGENT FEES

I do want to remind our doctor friends that Canon thirteen of the Professional Ethics of the Maine State Bar Association expressly disapproves of contingent fees. Many states permit them. Vide New York and its 50%.

Further, Maine Revised Statutes, Chapter 135, § 18 outlaws suing a case on shares. Years ago, our Court held that an agreement to prosecute a case "for \$5,000 or one-third of the fair value of the farm" was a criminal act. And the lawyer could recover nothing for his services and disbursements in prosecuting the case successfully.

*Hinckley vs. Giberson*, 129 Me. 308 — The Maine lawyer does properly take into account the result obtained for his client. At a recent Maine State Bar Association Meeting, a proposal was made by a prominent lawyer that contingent fees be legalized in Maine and that proposal was referred to the Legislative Committee of the Association with power to act.

To get back to our real subject, some precedent by analogy is certainly developing for this new theory of payment in poor result cases irrespective of fault by the doctor.

#### CLIENT INDEMNITY FUND

This scheme is somewhat analogous. Under it the clients suffering loss through the dishonesty of his lawyer is paid from a fund provided either by 1) assessments on the lawyers or 2) insurance purchased by them.

It was recommended by a committee of the A.B.A. at their annual meeting in August, 1959.

It is actually in effect in Vermont, inaugurated by the State Bar Association. It has been in effect for some time. Several other states have approved the idea. Committees of Bar Associations in at least 31 states and 10 large city associations are studying it. The Philadelphia Association, the oldest in the nation, approved it last summer.

Someone has made the comment, decidedly uncharitable to the legal professions, that with the doctors it is just in case of their well-intentioned but poor result treatment; but with the lawyers, so many of them are crooks that their own associations are having to take effective steps to protect the public from their dishonesty. A slanderous statement.

#### THE TUCSON PLAN

A second solution to the physician's malpractice problem, and one getting more support than the award regardless of fault, is actually in effect and has been for over a year in the area of Tucson, Arizona. Its effort is to dispose of malpractice claims by the advice of a panel of experts, half doctors, half lawyers. Called the Tucson Plan, its essentials are:

The lawyer with a malpractice claim may submit it with facts and medical records. The panel studies them, hears both sides, votes by secret ballot, and reports the majority decision to the parties. Neither side is bound



thereby. But if the panel finds for the patient, it helps him get the necessary expert testimony to support his case in Court. Of course, the success of this plan depends on the good faith of the patient's attorney and of the panel.

*Objections* raised in many sections where the plan is being discussed includes: 1) it may endanger our jury system; 2) plaintiff's lawyer may have to try his case twice; 3) the panel's decision may come to have a finality it would not deserve, although its decision is not made public and would not be admissible in Court; and 4) if for the plaintiff it might result in his making his money demand all out of reason.

*And I suggest a further objection*, in the light of a recent suit brought in Oklahoma in July of this year. Plaintiff's suit against a doctor for malpractice was considered by a committee of the County Medical Society at which a physician who had treated the patient and the attorney for the defendant doctor were present. She claims that personal and confidential medical and legal information concerning the case was discussed without her actual consent. Her suit is for two million dollars, one million because of the actual damage claimed and a second million for "punitive damages." She sues the doctor involved, his insurance company, his lawyer, and the medical society and several other doctors, all in one suit. And to make the occasion still interesting, she had in addition to her local counsel, a famous attorney known to fame for his unconventional courtroom procedures and extraordinarily large verdicts for plaintiffs.

Now, suppose in the operation of the Tucson Plan, a participating doctor or lawyer reveals or procures the disclosure of pertinent information which the plaintiff patient later claims was without his consent. If the theory upon which this two million dollar law suit is brought is sound, that doctor or lawyer is certainly in trouble.

#### PRIVILEGED COMMUNICATIONS, PATIENT TO ATTENDING PHYSICIAN

In Maine and at common law generally, the communication of patient to attending physician is not legally privileged; the doctor is restrained only by the principles of Ethics of his profession. But some states have by statute, made such communications privileged.

Illinois, for example by House Bill # 1280, in the Legislature of 1959 provides:

"No physician or surgeon shall be permitted to disclose any *information he may have acquired* in attending any patient in a professional character," with some seven enumerated exceptions the chief one of which is the consent of the patient. I recall a trial in Federal Court under the Federal Employer's Liability Act some fifteen years ago. In defense for a Maine Railroad, on the issue of damages, I offered the testimony of a Maine surgeon who had received history from and treated the plaintiff patient. The plaintiff's attorney who admitted

he was the leading practitioner for plaintiffs in this field, and had his own radiologist and orthopedic surgeon with him objected bitterly. In the trial of such cases around the country he had been in states where there was a statute creating the privilege. But we have no such statute and the Court admitted the evidence.

There seems to be a tendency to make such evidence privileged by state statute.

#### OTHER PANEL PLANS

Another plan advanced by an organization calling itself American Board of Legal Medicine, not recognized by the American Medical Association, proposes a panel consisting of 1) a doctor, 2) a lawyer and 3) a member of its organization, the decision of this panel to be final. And the members of this organization must be M.D.'s having a law degree or five years experience in medico-legal matters. I don't think this proposal has got very far and I don't imagine it will.

#### EXPERT EVIDENCE FOR THE PLAINTIFF

Professional men naturally have a reluctance to testify in support of a malpractice claim against a brother practitioner. To overcome this in the physician's malpractice field, several devices have been proposed and are to some extent in use:

*California.* In 1955 the Los Angeles County Medical Association and Bar Association set up a panel of experts, M.D.'s, qualified in various fields. Any plaintiff's attorney with a malpractice claim may consult one of the panel or more. And all evidence bearing on the case is made available to the expert on the panel. If the claim seems justified, the expert would go to court and testify for the plaintiff. It is claimed that this had resulted in the disposition of many such claims either by abandonment or settlement.

#### REACTION OF THE TWO PROFESSIONS TO THESE PLANS

I would rather expect the doctors to favor such ideas more than the lawyers as they have seemed to me to be less skeptical. To treat their patients, they generally have to assume the truth of the patient's history, the technician's finding and other information and data furnished them.

But the lawyer forever involved in controversy and accustomed to breaking down, or attempting to, the factual or legal claims of his adversary is naturally more skeptical. He is more jealous of his right to his day in Court. "No panel of doctors and lawyers is going to tell me whether I've got a case or not."

Perhaps I am wrong. I do recall a case, years ago, in which I felt that despite the distressing result, there was no malpractice so I sent the plaintiff's lawyer the data I had assembled. Now, we lawyers know each other pretty well in Maine and I believed that this lawyer would not subject my doctor to the humiliation of a trial unless he thought the case was truly justified. I sent the doctor, a practitioner in a small Maine town,

to my adversary for a conference, unaccompanied by me or anyone else to "protect" him. (I suppose I might be considered guilty of malpractice in doing so). Plaintiff's attorney questioned my client at length. He was satisfied and the case was abandoned.

#### THE FUTURE OF THESE PROPOSALS

These two proposals, payment regardless of fault and the advisory panel device are getting a lot of discussion in other areas and it is well for us in Maine to be giving thought to the pros and cons of them. The idea that "it can't happen here" is often a mistake.

#### THE DEFINITION OF INSANITY AS A DEFENSE IN CRIMINAL CASES

Recent developments should be of interest to both professions. The famous *M'Naghten case* in England in 1843 laid down a simple rule: did the accused have the mental capacity to know what he was doing and to know that it was wrong; if so, no defense. Since then, most American Courts have adopted and applied it, with some modifications.

But increasingly it has been criticized by some jurists and most psychiatrists as unrealistic, harsh, too narrow, not consistent with recognized psychiatric principles. General dissatisfaction has developed. As *Cardozo* put it in an address to the New York Academy of Medicine thirty-odd years ago (1928):

"Everyone concedes that the present legal definition of insanity has little relation to the truths of mental life."

And very recently, the Massachusetts Supreme Court:

"There seems to be one common theme running through these discussions (of jurists and criminologists) that the present state of the law on the subject in the Anglo-American system leaves much to be desired. We do not labor under the illusion that the rule of the *Rogers case* is entirely satisfactory."

Spalding, J. in *Com. vs. Chester*, 150 N.E. 2nd 914 (1958) — In the *Rogers* opinion, leading case in Massachusetts (48 Mass. 500) the Court in 1844 accepted *M'Naghten* the year after it was written except to broaden it and include "irresistible impulse" as a defense. This *Chester case* in 1958 affirms that rule.

So, as the Judge said in that case last year:

"It is no exaggeration to say that this subject is receiving more attention today than any subject in the criminal law."

So, what are our rules and briefly the arguments pro and con regarding them.

*First. M'Naghten* — the rule of discrimination between right and wrong. *Pro*: Simple rule, overwhelmingly majority rule for over a century, readily understood and applied by the jury. *Con*: too narrow, unrealistic, not sound by modern standards of psychiatry.

*Second. The Durham rule.* Based on *State vs. Pike*, 49 N.H. 399 (1869) and *Durham vs. U.S.*, 214 Fed. 2nd 862 (D.C. 1954): if the act was the product of mental disease (*Pike case*) or mental defect (added by

*Durham case*) a defense is established, regardless of capacity to distinguish between right and wrong: "No man is criminally responsible if his unlawful act was the result of mental disease or mental defect." A minority rule, New Hampshire and District of Columbia, only. *Pro*: realistic, in accordance with modern acceptance in psychiatry; recognizes the psychiatric truth that the compulsion of mental disease or defect can make the act "involuntary" even though the accused has the general capability to know right from wrong. "Psychiatrists without exception have acclaimed this *Durham decision*," wrote Kozol of Harvard Medical School in March of this year. Associate Justice Douglas of U. S. Supreme Court argued for it in an address in 1956. *Con*: Too liberal; it leaves the words "disease," "defect" and "product" undefined, "leaves the jury with virtually no standard" (*Chester case*).

*Third. M'Naghten plus "irresistible impulse."* Embracing *M'Naghten* the year after it came down in England, *Massachusetts* broadened it considerably to include "irresistible impulse" as a defense:

"A person may be able to discriminate between right and wrong, yet his mind may be in such a diseased condition that his reason, conscience and judgment are overwhelmed so that he acts from an irresistible and uncontrollable impulse. Then the act is not the act of a voluntary agent" and there is no criminal responsibility. This charge to the jury by Chief Justice Shaw was approved by the Court and became a classic.

*Com. vs. Rogers*, cited *supra* (1844) — Led by Massachusetts, 15 other states, the Federal jurisdictions and the U. S. Army in its military trials, apply this "right and wrong rule with "irresistible impulse" as an important qualification.

Many of you probably read the popular novel "Anatomy of a Murder" by a Michigan Supreme Court Justice, under the pen name of Travers, or saw the movie version of it in which our friend, lawyer Joe Welch of Boston, stole the show. It uses as its legal vehicle "irresistible impulse." Did any of you think it was a bit skeptical; that it suggested that the doctrine could be abused by an inscrupulous and clever respondent? Our psychiatrists would say no, I suppose; that no accused would be clever enough to fool them!

*The Maine Court* declined to run the risk of being fooled if you want to put it that way. It accepted *M'Naghten's* right and wrong test. And in 1901 it rejected the defense that there could be an irresistible impulse caused by mental disease co-existing with the capacity to comprehend the nature and wrongfulness of the act and asserted with some asperity that the alleged "uncontrollable impulse may with equal reason and consistency be attributable to moral depravity and criminal perversity."

*State vs. Knight*, 95 Me. 467 — The judge chose to ignore this leading case, when in 1931 he said that "The Maine Court always blindly followed Massachusetts in everything," that its opinions "consisted of little more



than ditto marks" of the Mother States' decisions, a little poetic license on his part.

There has been no intimation that our Court might change its rule.

Now in this brief summary, I grant that I may have over-simplified the issue, and ignored important elements of the history and development of it, particularly the vast amount of discussion from respected jurists, criminologists and psychiatrists devoted to the thesis that M'Naghten has outlived its usefulness and should be abandoned, and the scientific evidence in support thereof.

For instance, I was intrigued by the question: How come *State vs. Pike*, anyway? Where did New Hampshire get the idea back in 1869? I suspect *Judge Doe* who wrote the *Pike* opinion. In a previous dissent in a civil case involving the issue of insanity, he declared: "The tests and symptoms of the disease of insanity are no more matters of law than consumption, cholera or poisoning," that the question is one of pathology and medical evidence; that the only element of law involved is that no man should be held liable for an act performed because of mental disease.

*Boardman vs. Woodman*, 47 N. H. 120 (1867) — Did the medical profession applaud? Anyway within a year or two came *State vs. Pike*, 49 N. H. 399 and *State vs. Jones*, 50 N. H. 369, and the Durham rule was born.

*Fourth — The proposed New York Code.* Now for the last word on the subject. New York has been studying the problem since Cardozo's 1928 attack on M'Naghten which is the basis of its Penal Code provision. Its Commissioner of Mental Hygiene, Dr. Paul Hoch, is an ardent advocate of change. It was at his instance, I think, that Governor Harriman appointed and Governor Rockefeller continued a committee of experts called the "Conference on the Defense of Insanity." And the New York State Bar Association undertook an exhaustive study of the question in co-operation with the "Conference" and also the American Law Institute. As a result the Institute proposed a Model Penal Code in 1955. And finally after several interim reports the Committee on Mental Hygiene of the New York State Bar Association brought forth a few months ago (May 15, 1959) its final recommendation. It adopts the proposal of the Governor's Conference and in language patterned very closely on the Institute's Model Code advises a rule of no criminal responsibility "if as a result of mental disease or defect accused lacked substantial capacity 1) to know or appreciate the wrongfulness of his conduct, or 2) to conform his conduct to the requirements of the law."

The Committee's Report considers this language a "more specific formulation" than the Durham rule, "deliniating the type of causal relation between the disease and the act." But it is essentially Durham. I don't think the New York State Bar Association has acted yet on this proposal. The New York Legislature hasn't anyway.

The last comment of any consequence I have seen is the New York Herald Tribune of September 7, 1959, quoting with approval a Washington Post editorial, which is fairly representative of newspaper comment:

"The experience of the District of Columbia under the Durham rule may be encouraging to New York. Although the rule has been wildly criticized by policemen and prosecutors, it has not resulted in any significant increase in acquittals by reason of insanity and it has not, as the critics predicted, loosed a flood of maniacs on the community.

*The Durham rule offers two advantages over the Mc-Naghten rule: one, it enables psychiatrists to testify as expert witnesses not in terms of morality but in terms of their own special competence; and, two, it enables juries to take into account other relevant factors than an ability to distinguish between right and wrong in making their difficult determination as to whether an accused person was really responsible for what he did.* The Durham rule may need refinement in language and definition. But it points the way toward a much more enlightened administration of criminal justice."

To conclude: Where do we go from here? One might ask:

When will an enterprising Maine lawyer with an appropriate murder case try to persuade our Maine Court to over-rule *State vs. Knight*, accept "irresistible impulse" and perhaps the Durham rule in toto? He will have ammunition not available to his illustrious predecessor, Herbert Heath, when he argued *State vs. Knight* for the respondent sixty years ago.

And our doctor friends? I imagine they incline to "mutare decisis cum Durham et als" in place of "stare decisis cum M'Naghten."

If, instead of reading a mass of material as I did, you want a clear, concise and informative discussion, I heartily recommend to you Judge Spalding's opinion last year in *Com. vs. Chester*, cited *supra*.

#### THE RECENT EXPANDED CONCEPT OF "FRAUD IN INCOME TAX CASES DISTURBING TO DOCTORS AND LAWYERS

1) Internal Revenue Service has recently shown a disturbing inclination to claim "fraud" in many cases which heretofore would have been considered negligence rather than a mistake by the tax payer. Its objective, of course, is to avoid the statute of limitations and to get more money, including heavy penalties. But however laudable that objective may be — from their viewpoint, — no professional man should be accused of fraud lightly.

As one highly respected commentator has put it:

"The Courts out of a combination of the net worth rule, presumption of correctness of assessment, and deference to the Tax Court's finding of fraud, have opened taxable years ten to fifteen years earlier and actually upheld fraud penalties."

Professor Harrop A. Freeman, of Cornell Law School in volume 45, page 577 of the A.B.A. Journal, June, 1959. — Now, tax avoidance is legal. It is officially encouraged. "The tax payer may take every controver-

sial issue in his own favor, for no man need pay more than the minimum of tax." (Professor Freeman).

*Tax evasion*, on the other hand is illegal, prevents the statute of limitations from running, and involves heavy money penalties, even imprisonment.

Admittedly, the line between the two may be fine in a particular case. But that does not justify ignoring the line and characterizing all possible border line cases as fraud, as seems to be the definite policy of I.R.S.

2) *Vulnerability*. Doctors, lawyers, and some other professional men are much more likely to be included in that percentage of income tax returns scrutinized for error and claim of fraud, in the opinion of many commentators. Because of their opportunities. Often receiving cash. Often practicing alone. Considered to be relatively high earners. So probably their exposure is greater.

3) *Jeopardy to their practice*. The members of both our professions rely heavily on the respect of the public to earn a livelihood. Hence, a natural inclination to settle and avoid notoriety even though to do so involves an implied admission of the "fraud" which is claimed against them.

*But just bear this in mind*: the admission of income tax fraud, even the accusation of it, may cause disbarment of the lawyer or doctor. In fact, should cause them to be debarred from practice according to some recent decisions of Courts of Last Resort in this freedom loving country of ours.

In 1957, the Supreme Court of the State of Washington held flatly that income tax fraud involves "moral turpitude" and required the disbarment of a lawyer.

*In re Seijas*, 318 Pacific 2nd 961 — And last year they applied the same rule to a doctor — right to practice revoked for tax fraud.

*In re: Kindschi*, 319 Pac. 2nd 824 — Further, several of the larger professional associations have considered that they were required to take disciplinary proceedings when I.R.S. had assessed a fraud penalty, without waiting for final action on the assessment at all.

It is not a pleasing picture.

*Remedy?* Is there any remedy for this unfortunate situation? Commentators have recently suggested several:

1) Recognition by professional associations and by the Courts that "tax fraud" as presently alleged by I.R.S. is different from common law fraud, does not involve moral turpitude and should not be grounds for disbarment.

2) Amend the I.R.S. so that gross errors and the like would not be barred by the statute of limitations and would be subject to penalty imposition but without calling it "fraud."

3) Require proof of intent under the usual criminal law rules, as distinguished from "civil fraud."

And some tax consultants advise and actually use the insertion of five hundred dollars to one thousand dollars "additional income" not found in the tax payer's books, expressly stated to be to cover omissions, im-

proper deductions, or other errors which I.R.S. may claim to be fraudulent.

But none of these is a true solution. My point is that both professions should bear in mind this troublesome relatively new approach; and take care that we do not make errors which could be considered "gross," and thereby give I.R.S. a chance to levy an assessment based on this new expanded concept of "tax fraud," with its implication of possible loss of the right to practice our respective professions.

#### SUMMARY AND CONCLUSION

There are, of course, other "new things" of interest to our two professions. For example, the *Inter-professional Code*, adopted by American Medical Association in 1957 and by American Bar Association in 1958. It is now before our Maine State Bar Association, referred to the Executive Committee, to be reported back and acted upon at our next meeting. To many of us, it merely codifies existing practices of courtesy and consideration between the two professions in Maine. There is, perhaps, not the necessity for it in our State that probably exists in some larger states. I see nothing particularly controversial in it for us.

But, I do suggest that the subjects I have called to your attention are worthy of thoughtful consideration by both our professions in Maine:

1. The very controversial proposal of compensation irrespective of fault in malpractice actions against physicians, with its background of alleged precedent in the fields of industrial injury and, to an increasing extent, automobile accidents;

2. The client indemnity fund which it is hard to believe is needed in our State;

3. The panel of expert device, claimed to result in the abandonment or settlement of malpractice claims against physicians and the elimination of the reluctance of doctors to testify against each other in malpractice suits;

4. The old issue of the nature and extent of insanity sufficient to constitute a defense in criminal cases; shall it be liberalized to accord with modern psychiatry;

5. And close to our pocketbooks, and even perhaps the right to practice our professions, this expanded concept of fraud in income tax cases with which I.R.S. has presented us.

We cannot solve these questions ourselves. And we have to recognize a certain amount of impatience with both our professions on the part of some of the public. You have heard the old saying:

"Fond of doctors? Little health."

"Fond of lawyers? Little wealth."

But we may do well to consider these questions, reach what we believe to be wise and just views, and then seek to have those views adopted. Otherwise someone else may do it for us and not to our liking.



# The Journal of the Maine Medical Association

DANIEL F. HANLEY, M.D., Brunswick, Editor

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## Across The Desk

### **Reservist Veterans Safe From Call Up By Military**

Dept. of Defense obtained assurance from all three services last week they will not call up, involuntarily, any physicians, dentists or veterinarians who have had 21 months or more of active duty. This applies to members of ready reserve but *not* to National Guard or reserve unit members who are in pay status. (WRMS October 23, 1961)

### **New Publications Treat A Variety Of Subjects**

"Persons Receiving Care at Home" is latest in series of National Health Survey reports. It is available free (PHS No. 584-B28) on request to Natl. Center for Health Statistics, Dept. of HEW, Washington 25, D. C. "Women in Scientific Careers" reports on vocational trends and presents statistical data on women in medicine, dentistry and the other health professions. This is a National Science Foundation publication (20 cents from Supt. of Documents, Washington 25, D. C.) "When Your Baby Is on the Way" is a Children's Bureau pamphlet (15 cents from Supt. of Documents) that uses simple terms to explain how prospective mothers can best use community health facilities. (WRMS October 23, 1961)

### **Money Allotted To Spur Outpatient Health Care**

Dr. Luther L. Terry, Surgeon General of USPHS, announces allocation of \$750,000 among 31 institutions in 18 states to foster experimental out-of-hospital health services for chronically ill and aged. Recipients are chiefly health departments, with a few non-profit welfare groups included. Ten of the approved projects are for development of home nursing services. Others are for central information and

counseling, creation of homemaker programs, nursing home improvements and coordinated home care. (WRMS October 23, 1961)

### **First Draft Notices Go To Doctors**

Working at unprecedented speed, some of nation's local draft boards will be sending the familiar "Greetings!" to physicians. Draft calls for 495 physicians — Army, 275; Air Force, 150; and Navy, 70 — along with 154 dentists and 67 veterinarians, all needed by Army.

Selective Service hq thinks it won't have to go past age 27 for the physicians, age 26 for the dentists. It doesn't expect to induct any, of course; prospective draftees will be advised to apply for commissions and immediate active duty. Note: As in the past, doctors of osteopathy will not be screened by Selective Service. (WRMS October 9, 1961)

### **Volume Of Outpatient Veterans' Care Rises**

Veterans Administration recorded 139,800 visits for outpatient medical treatment in August, compared with 134,788 in previous month and 137,583 in August, 1960. Average daily inpatient load showed less change. It was 113,070 in August, 111,628 in July and 113,240 in August, 1960. (WRMS October 9, 1961)

### **Do-It-Yourself Medicine A Defense ERA "Sleeper"**

Government's plan to teach every other American adult the essentials of disaster survival medical care has tremendous possibilities. Enthusiastic reception by the public would be bound to have side effect of

*Continued on Page 344*

# Fall Clinical Session of the Maine Medical Association

Augusta, Maine — Saturday, December 2, 1961

## PROGRAM

### Augusta General Hospital

8:30 A.M. *Clinic — Foot Disorders in Children*  
Allan J. Stinchfield, M.D., Augusta

### Augusta State Hospital

9:30 A.M. Registration

10:00 A.M. Discussion Rooms

10:00 A.M. *Hip Disorders*  
Allan J. Stinchfield, M.D., Augusta

*Indications for Cesarean Section*  
Lee W. Richards, Jr., M.D., Augusta

*Pitfalls in X-ray Diagnosis*  
Francis J. O'Connor, M.D., Augusta

10:45 A.M. Greenlaw Auditorium

10:45 A.M. *Anesthesia Panel*  
Moderator, Napoleon J. Gingras, M.D., Augusta;  
Drs. Gilbert Clapperton, Lewiston; John R. Lincoln, Portland; Alden Squires, Togus Veterans Administration Center and Warren G. Strout, Bangor

11:30 A.M. *Tranquilizers and Psychic Energizers*  
Milton Greenblatt, M.D.  
Research Director of Massachusetts Mental Health Center

12:30 P.M. Luncheon — Staff Dining Room

2:00 P.M. Greenlaw Auditorium

2:00 P.M. Panel Discussion: *The Laboratory in Modern Practice*  
*The Physician Looks at the Laboratory*  
Perry J. Culver, M.D.  
Associate in Medicine, Harvard Medical School and Associate Physician, Massachusetts General Hospital



*Advances in Bacteriology and Microbiology of  
Clinical Importance*

Charles Okey, M.D.

Director, State Diagnostic Laboratory, Augusta,  
Maine*Clinical Chemistry Today*

Lot B. Page, M.D.

Acting Director, Clinical Chemical Laboratory,  
Massachusetts General Hospital4:00 P.M. *What You Should Know About Fallout*

Carl Woodcock, Ph.D.

Professor of Physics and Astronomy, Bates College

## NOTES

9:00 A.M. Specialty Group Meeting at Augusta State Hospital

Maine Society of Obstetrics and Gynecology

*Organizational Policies and Pitfalls for an Ob-Gyn Service*

## TOUR

There will be a guided tour of new buildings at the State Hospital.

## PROGRAM COMMITTEE

Oakley A. Melendy, M.D., Chairman

Robert L. Ohler, M.D.

Allen I. Saunders, M.D.

**Woman's Auxiliary To The Maine Medical Association**

## WORSTER HOUSE, HALLOWELL

9:00 A.M. — Registration and coffee.

10:30 A.M. — Fall business meeting.

Presiding — Mrs. S. Dunton Drummond, Bar  
Mills, President.

12:30 P.M. — Luncheon.

Speaker: Mrs. H. Frederick Stephens, Barrington,  
R.I., Chairman, Committee on Civil  
Defense, Woman's Auxiliary to the  
American Medical Association.

Subject: Civil Defense.

## NOTES

## AUGUSTA STATE HOSPITAL

4:00 P.M. — Tea at the residence of Mrs. Francis H.  
Sleeper, Augusta State Hospital

Tour of Blaine House and State House Museum.

Transportation will be available from the Augusta Gen-  
eral Hospital and the Augusta State Hospital to the  
Worster House

ACROSS THE DESK — *Continued from page 341*

encouraging more young men and women to choose careers in medicine and allied professions. Of still greater significance, successful execution of such a bold program as this would show that laymen can be quickly taught to do some of the therapeutic procedures now reserved for physicians and subprofessional aides.

At Public Health Service, where this daring idea has developed into a self-help training kit that is about to go into large scale production, it is emphasized and re-emphasized that this is strictly an emergency innovation, predicated on assumption that a nuclear disaster would decimate supply of physicians and self-help would be imperative for survival. Nevertheless, it is readily apparent that a training program of this kind has a big potential in peacetime also. (WRMS October 16, 1961)

**Patients With Whipple's Disease Wanted At NIH**

Clinical Center of National Institutes of Health in suburban Bethesda, Md., is seeking referrals of patients with Whipple's disease. Tending to occur in middle-aged males, the condition is marked by non-crippling arthritis, weight loss, diarrhea with malabsorption and abdominal distention. Interested physicians are advised to communicate with Leonard Laster, M.D., National Institute of Arthritis and Metabolic Diseases, Bethesda 14, Md. Telephone number is 496-4201. (WRMS October 16, 1961)

**Quackery**

— Larrick: "The most widespread and expensive type of quackery in the United States today is in the promotion of vitamin products, special dietary foods, and food supplements. Millions of consumers are being misled concerning their need for such products. Complicating this problem is a vast and growing 'folklore' or 'mythology' of nutrition which is being built up by pseudo-scientific literature in books, pamphlets, and periodicals. As a result, millions of people are attempting self-medication for imaginary and real illnesses with a multitude of more or less irrational food items. Food quackery today can only be compared to the patent medicine craze which reached its height in the last century. Especially disturbing is the tendency shown by some big and hitherto respected food concerns to use quackery in their sales material." (The Month in Washington, October 6, 1961)

**Dentist's Tax Victory Turns On Business Aim**

A Los Angeles dentist won a significant victory last week in U. S. Tax Court. The special tribunal upheld him, against Commissioner of Internal Revenue, in a

case involving sale of an orthodontic practice. Court's decision hinged largely on this conclusion: That patient-doctor relationship was minimal and "the success of this business apparently lay in supplying satisfactory assembly-line orthodontic work at lower prices which resulted from the high volume of patients which could be handled." (WRMS October 2, 1961)

**Essence Of Controversy**

Dr. Merle P. Brooks sold his North Hollywood office, one of three in a chain, to Dr. Roger Bloch for \$240,000. Terms were \$1,000 a month for 20 years. Seller considered \$10,000 as payment for tangible assets and entire remainder as payment for goodwill. Accordingly, he prorated \$5,749.80 of the \$6,000 received in 1955 and \$11,499.60 of the \$12,000 in 1956 as returns from sale of a capital asset. Internal Revenue Service turned down this capital gain claim and said the sums were ordinary income. U. S. Tax Court reverses IRS, holding that the money was properly reportable as capital gain.

The North Hollywood orthodontic setup had two full-time dentists, one part-time employee and several technicians. Under management of Dr. Brooks, it grossed \$89,216 in 1953 and net was \$46,721. The net fell to \$39,044 in 1954 but for first six months of 1955 it was \$21,649. Since purchasing the practice in 1955, Dr. Bloch's net annual income — after taxes — has always exceeded \$36,000, according to records submitted to the court. (WRMS October 2, 1961)

**Price Index Drops But Medical Care Ascends**

The "medical care" category in consumer price index, which has been rising uninterruptedly month by month for years, kept the pace in August even though the over-all index registered one of its infrequent declines. For all items combined, index dropped from 128.1 in July to 128.0 in August (1947-49=100). In the same period, medical care rose from 161.2 to a new high of 161.4.

Between August, 1960, and August, 1961, medical care went up by 3 per cent. This compares with 1.1 per cent for all items; 0.9 for food; 0.6 for housing; 0.5 for apparel; 2.1 for transportation; 0.3 for personal care; 2.1 for reading and recreation; and 0.9 per cent for other goods and services.

Among a selected list of 10 cities, Cleveland stood at the top in August with a price index of 184.8 for medical care. According to the Labor Dept. monthly report, Detroit had an index of 171.9 and the others were as follows: Chicago, 170; Philadelphia, 170; Washington, 160.5; Seattle, 158.9; Los Angeles, 153.6; New York, 150.6; Houston, 140.2, and Scranton, Pa., 137.3. (WRMS October 2, 1961)





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*Research in the Service of Medicine*





DEAN H. FISHER, M.D.  
COMMISSIONER

## State Of Maine

# Department of Health and Welfare

## Policy On Tuberculin Testing

The tuberculin test is one of the most useful instruments for disease control known to medical and public health workers. It is specific, relatively inexpensive and easy to administer, and can be used not only in case finding and diagnosis but in case prevention. As the incidence of frank disease decreases the importance of detecting potential cases increases. It is here that the tuberculin test is most useful since it may indicate the presence of infection before it can be demonstrated by x-ray or bacteriologic means.

By testing certain groups and population areas those responsible for tuberculosis control can gain information as to the effectiveness of methods used and the areas where control measures need strengthening or revision.

A second important purpose of the tuberculin test is that of scientific investigation. The understanding of tuberculosis immunity, the meaning of reactivity, and the best methods for estimating tuberculosis infection rates are not closed issues. Tuberculin testing is of necessity an integral part of investigation of these subjects and may be undertaken at one time or another using the State as a whole or by intensive study of a specific area or population segment.

Although at present the Mantoux Test (using PPD material injected by syringe) is the method of choice, other methods, such as multiple puncture tests, may be adopted if and when they are considered superior in accuracy, efficiency, and economy. Adoption of a new method or modification of an old one, or changes in standards or methods of measurement will necessitate careful control studies before adoption.

Any test, however, is only as good as the care with which it is administered. This policy statement has been developed to help in maintaining a high standard of performance and recording so that results obtained by different persons at different times and places may be compared or combined as need be without sacrifice to statistical accuracy. This has been made particularly necessary by the adoption November 1960 by the Maine Tuberculosis Conference of a reactor rate of less than 1% among 14 year old children as one of the criteria of effective control.

This criterion requires widespread testing of this age group and combination and comparison of results ob-

tained by many workers in all parts of the State. It requires, therefore, coordinated effort on the part of state health services, private medical practitioners, and the voluntary tuberculosis control agency (local, county, and other divisions of the Maine Tuberculosis and Health Association).

Since the responsibility of tuberculosis control rests in the Bureau of Health this agency should assume leadership in planning and executing community (including industrial) testing programs. The role of the tuberculosis association is that of augmenting or supplementing the services of the Bureau, particularly in the area of pretesting publicity, community organization and health education.

Education is the third important function of tuberculin testing. No test should be given to an individual without some explanation of the purpose of the test and meaning of the reaction, and no program can fulfill its purpose without an adequately informed public.

The following statement on Tuberculin Testing is the policy of the Maine Tuberculosis Association. The main body and content of the statement was prepared by a committee of the Maine Thoracic Society, medical section of the Maine Tuberculosis Association, at the request of the board of directors.\* It is suggested as policy for affiliated tuberculosis and health associations. It is hoped that it will be a medium for establishing uniformity of purpose and technique in order that all testing may become more meaningful and be of greater value. It is recommended to all public and school health authorities, the medical profession and all others concerned as a desirable guide relative to the use of the tuberculin test, planning testing programs and the techniques of administering the test.

### POLICY STATEMENT

#### A. Purposes of Tuberculin Skin Testing

##### I. Disease Control

##### a) Case Finding

The value of the tuberculin test is increasingly one of determining the presence of tuberculosis *infection*. Since a large part of future cases will develop among persons

\*Alta Ashley, M.D., District Health Officer, Augusta, Chairman; Frederick C. Emery, M.D., Bangor; William B. Grow, M.D., Superintendent, Central Maine Sanatorium, Fairfield; George W. Wood III, M.D., Brewer and Marguerite C. Dunham, M.D., District Health Officer, Presque Isle.



at present infected the need for screening out of positive reactors for purposes of careful follow-up or even specific control is patent. Thus Case Finding is fast becoming a search for *potential* cases, i.e. positive reactors.

If every person could be skin tested and all non-reactors retested until they have converted to positive or died, we would be able to identify all potential cases. This, of course, is both next to impossible to accomplish and prohibitively expensive to carry out. Therefore, careful selection of persons to be tested must be made. This selection becomes more and more difficult as reactor rates decrease. Best yields will be among:

- 1) Household contacts and close associates of recently active cases.
- 2) Persons of all ages in population areas where incidence of disease is high.
- 3) Persons in certain industries of high infection potential-e.g. stone cutters, nurses and attendants in hospitals and allied institutions, et al.
- 4) Nursing home patients
- 5) Inmates of State Hospitals and penal institutions
- 6) School children

(a) Entering (preprimary or first grade)

Here the positive reactor usually helps in locating an undiagnosed case within his family or among very close associates.

(b) 8th grade students (or 14 year olds) as standard population for measuring community infection rates.

(c) 12th grade students

The cases turned up among positive reactors in this group are usually early and respond well to treatment.

7) Persons admitted to hospitals, clinic patients (chest, allergy, prenatal, geriatric, etc.)

8) Diabetics

Tuberculosis is a serious complication of diabetes and vice versa. In the presence of this disease tuberculosis lesions progress rapidly. Therefore all diabetics should be tested periodically and all reactors followed carefully by x-ray examination.

#### b) Diagnosis

The private physician has a particularly useful diagnostic tool in the intradermal tuberculin test, especially when it is used along with sputum examination.

#### c) Epidemiologic investigation

Changes in reactor rates from time to time or place to place are an excellent means for evaluating the need for or efficiency of disease control methods. Reactor rates of infants attending well child clinics reflect the failures in control of tuberculosis in the close associates of young children — chiefly parents — and thus young to middle aged adults.

The reactor rates of school children are among the most sensitive indicators for community tuberculosis control. In fact the reactor rate among fourteen year olds — or eighth graders — has been taken as a measure of control, with a rate of less than 1% a standard of "practical" community control.

Means for gathering such information must be economical, effective, efficient, facile and uniform. The intradermal tuberculin test (Mantoux employing PPD in intermediate strength) meets these standards in the following way:

##### (1) Effectiveness

Properly done the tuberculin test is a screening method which assures a minimum of false negative and false positive reactions and by its ease lends itself to wide participation among the group to be tested.

##### (2) Efficiency

The tuberculin test can be administered in a manner assuring maximum accurate results and minimum expenditures of time, money and manpower.

ner assuring maximum accurate results and minimum expenditures of time, money and manpower.

##### (3) Facility

The tuberculin test is sufficiently easy and simple to allow the utilization of all members of the testing team, including the use of responsible non-medical personnel to administer and interpret tests with supervision and training. The test requires a minimum of equipment and no special physical environment.

##### (4) Uniformity

The tuberculin test has been well standardized and the use of uniform procedures will yield data which, if properly kept, may be correlated and compared with other programs elsewhere, thereby giving sound data for evaluation and study.

## EPIDEMIOLOGIC INFORMATION

Short term epidemiologic information is useful in the study of a community and the evaluation of the extent of infection. Planning the means of control and suppression of tuberculosis will be guided in large part by the results obtained by such studies.

Long term epidemiologic information is necessary to measure significant changes in disease incidence and to evaluate the effectiveness of control measures in a chronic disease such as tuberculosis. Some long term information is available from mortality and morbidity statistics but both have imperfections, and should be supplemented by either periodic or continuous skin testing of properly selected groups in representative sample communities. Any such program should be planned as at least a ten year endeavor and preferably a fifteen to twenty year one.

It is extremely important that all such programs should be uniform and kept uniform throughout their duration. It is equally important that the participating communities be well selected and their characteristics well known. The community should not have to bear the financial or technical burden of such long term programs.

Communities not qualifying as "representative sample" communities by reason of population size, inherent community individualistic characteristics etc., but which would like to carry on a testing program, should conform to policy standards so that data obtained will be significant and the results of testing may be added to the State aggregate, as necessary or desired.

School groups, for reasons of age and availability, are the best for epidemiologic study. They further comprise a relatively stable group and are adaptable and receptive to education programs. However, routine testing of all persons above school entrance age is not considered to be a valuable case-finding technique because of the problem of finding the source case due to the multiplicity of contacts.

In Maine, where most schools are set up on the system of eight (8) elementary grades and four (4) secondary grades, the following plan is best for both good results and convenience. It is recommended that in either long term or short term studies the children tested should be:

(1) First grade children (sub-primary when attendance in such grades is general) and new admissions not previously tested.

(2) Eighth grade children (or 14 year olds). This grade is composed chiefly of 14 years olds. Also four year conversion rates can be calculated after retesting these students as 12th grade pupils.

Also, because a fair percentage of students drop out of school before reaching the 12th grade, eighth grade testing offers a chance to test many who would otherwise be lost.

(3) Twelfth grade children.

Testing of grade school children should be done as early in the school year as feasible to allow sufficient time for follow-up within the school year.

In order to obtain information which will be statistically sound for epidemiologic purposes a tuberculin testing program requires at least 90% participation of the proposed survey population.

Parental consent should be obtained for tests on all children and should be in writing.

## II. Scientific Investigation.

No further elaboration need be made at this time.

## III. Education

Educational aspects are an inherent and desirable part of both case-finding and epidemiologic studies and are therefore not considered as a separate category.

Suffice to state, in any tuberculin testing survey for case-finding or epidemiologic reasons, a complete educational program including information on the purpose, what the test means, the testing procedure, the disease (with public health connotations), and its biological and sociological implications should be carried out beforehand, both among the groups to be tested as well as the community as a whole. This is the area in which the voluntary agency is best qualified to serve.

## B. Recommended Method of Tuberculin Testing

PURIFIED PROTEIN DERIVATIVE (PPD) IS RECOMMENDED AS THE TESTING MATERIAL OF CHOICE:

PPD is stable for long periods of time in the dry state, gives a minimum of false reactions, and is readily stored and kept available.

PPD should be used exactly as directed by the manufacturer. Material should be prepared fresh for each test (or testing period) and not used after expiration date. This is particularly important with regard to diluted material.

Syringes and needles used for PPD testing should be reserved solely for that purpose to avoid false reactions.

The test should be carried out as follows:

- (1) Intermediate strength PPD (0.0001mg) is the recommended dosage.
- (2) 0.1 is injected intradermally.
- (3) Reaction is read in 72 hours (48 to 72 hours being minimum and maximum reading limits). Exact time of reading should be recorded.
- (4) Positive reactions are those in which induration measures over five (5) millimeters in diameter. Measurement is done with a millimeter rule.\*
- (5) Doubtful tests — those with induration five (5) millimeters or less — should be retested as described above.

Use of non-medical persons to administer and interpret tuberculin tests is permissible providing consent has been obtained from the local physician concerned and those

assigned such responsibility are given proper training and instruction by medical authority experienced in the use of the tuberculin test.

Written consent for the test should always be obtained whenever minors are to be tested.

Certain multiple puncture methods, such as the Heaf Test, show promise but require further comparative testing before they can be recommended for long range epidemiologic studies.

The Vollmer Patch Test is not acceptable for epidemiologic studies.

## C. Keeping of Testing Records.

Accurate record-keeping is essential to any epidemiologic or case-finding study, and is a primary requisite in conducting an epidemiologic study. Standard forms recommended for the purpose should be used and should be requisitioned from the District Health Office. It is recommended that these forms be studied in the planning phases of all tuberculin surveys. Individual results of tuberculin testing should be incorporated in the personal school medical record of each child participating.

Records of school testing programs should be so reported that both the age and school grade be known in order that figures may be compiled for either age groups or grade groups, as well as for each sex. Repeat tests on the same individual should be recorded on the same form or on two forms clipped together when space on the first form has been exhausted.

## D. Follow-up of Tuberculin Reactors.

All positive reactors should be followed up by x-ray examination and their names reported to the individual family physician for clinical evaluation and the examination of family members and other intimate contacts.

Plans for x-ray follow-up of positive reactors, both in case-finding and epidemiologic tuberculin testing studies, should be carefully worked out before a study is initiated. Follow-up should occur within four weeks of the time the tests are read. Examination of contacts of positive reactors should be an integral part of every testing program and should be provided for in its planning.

## E. Use of Tuberculin Test by Private Physicians.

Private practitioners are encouraged to tuberculin test pre-school age children in their office practices, for it is in this group that the identification of the sources of infection can be most readily determined and careful clinical follow-up of both the positive reactors and contacts will yield the greatest dividends.

It is also recommended to private practitioners that they use the tuberculin test more frequently for purposes of differential diagnosis in regard to chronic pulmonary disease, keeping in mind that "chronic bronchitis" and "cigarette" coughs, pulmonary calcifications and other pulmonary abnormalities may be due to tuberculosis or a variety of conditions including pulmonary carcinomatosis, histoplasmosis, actinomycosis or other chronic conditions.

## F. Plans for Tuberculin Test Surveys.

In all instances where tuberculin testing is done as a survey procedure, whether testing among special high incidence groups as a case-finding technique or among other groups (school) for epidemiologic purposes, a complete plan for managing the program should be worked out beforehand. This includes plans for follow-up of positive reactors and their contacts, reporting of reactors and cases found to private physicians and health authorities, and the preservation of all records made in the study. Questions concerning techniques of a survey procedure may be referred to the Maine Tuberculosis Association for clarification or to the District Health Officer in the area. All epidemiologic studies should be carried out by or with the knowledge of the full-time health officer of the area (local or state).

\*It is important to note here that although epidemiologically reactions are considered positive if they measure over 5 millimeters in diameter, the clinical significance of those under 10 millimeters has not been established. Active disease is seldom if ever associated with the smaller reactors.



# County Society Notes

## KNOX

September 12, 1961

The first fall meeting of the Knox County Medical Association was held on September 12, 1961 at the Thorndike Hotel in Rockland, Maine.

Mr. Charles Caldwell, Director of Administration of Civil Defense, Augusta, spoke on "Medical Aspects of Nuclear War." Mr. Caldwell showed two interesting films, and a lively discussion period on this timely subject followed.

MUSTAFA V. ONAT, M.D.  
*Secretary*

## OXFORD

October 4, 1961

The annual meeting of the Oxford County Medical Society was held at Bethel Inn in Bethel, Maine on October 4, 1961.

The following officers were elected:

President, H. Richard Bean, M.D., Norway

Vice-President, John Young, M.D., Bethel

Secretary-Treasurer, Albert P. Royal, Jr., M.D., Rumford

Drs. Gisak Petrossian and Leonidas Kudisch of Rumford, were elected to membership.

After an excellent dinner, Dr. Samuel Proger of the New England Center Hospital gave a very interesting and instructive talk on "Surgery in Patients with Coronary Heart Disease."

ALBERT P. ROYAL, JR., M.D.  
*Secretary*

## YORK

October 11, 1961

The York County Medical Association met at the York Hospital in York, Maine on October 11, 1961. Eighteen members and three guests were present.

A social hour followed a dinner served by the ladies of the hospital staff.

Drs. G. Patrick Shaw of Biddeford and George A. Lord of Sanford were elected to membership.

Dr. Kenneth E. Leigh, President, appointed the following nominating committee members: Drs. Carl E. Richards and Melvin Bacon of Sanford and Charles W. Kinghorn of Kittery.

Dr. Carl E. Richards delivered the new By-Laws which have been mailed to each member.

Dr. Norman Welch of Boston gave a very interesting talk on "Government and Medicine."

CHARLES W. KINGHORN, M.D.  
*Secretary*

## PENOBSCOT

October 17, 1961

A meeting of the Penobscot County Medical Society was held at the Twin City Motel, Brewer, Maine on October 17, 1961. Approximately 50 members and guests attended.

Dr. Richard C. Wadsworth, President, presided at the meeting which followed a social hour and dinner. Dr. Byron V. Whitney of the Public Relations Committee introduced Mr.

## COUNTY SOCIETIES

### ANDROSCOGGIN

President, Waldo A. Clapp, M.D., Lewiston  
Secretary, Donald L. Anderson, M.D., Lewiston

### AROOSTOOK

President, Frederick J. Gregory, M.D., Caribou  
Secretary, Clyde I. Swett, M.D., Island Falls

### CUMBERLAND

President, Robinson L. Bidwell, M.D., Portland  
Secretary, Albert Aranson, M.D., Portland

### FRANKLIN

President, Maynard B. Colley, M.D., Wilton  
Secretary, Philip B. Chase, M.D., Farmington

### HANCOCK

President, Charles H. Knickerbocker, M.D., Bar Harbor  
Secretary, Russell G. Williamson, M.D., Blue Hill

### KENNEBEC

President, Philip Dachslager, M.D., Augusta  
Secretary, Earle M. Davis, M.D., Waterville

### KNOX

President, Robert H. Eddy, M.D., Rockland  
Secretary, Mustafa V. Onat, M.D., St. George

### LINCOLN-SAGadahoc

President, George W. Bostwick, M.D., Newcastle  
Secretary, George W. Bostwick, M.D., Newcastle

### OXFORD

President, H. Richard Bean, M.D., Norway  
Secretary, Albert P. Royal, Jr., M.D., Rumford

### PENOBSCOT

President, Richard C. Wadsworth, M.D., Bangor  
Secretary, Philip B. Thomas, M.D., Bangor

### PISCATAQUIS

President, George C. Howard, M.D., Guilford  
Secretary, Isaac Nelson, M.D., Greenville

### SOMERSET

President, Paul R. Briggs, M.D., Hartland  
Secretary, Harland G. Turner, M.D., Norridgewock

### WALDO

President, Ward A. Albro, M.D., Belfast  
Secretary-Treasurer, Seth H. Read, M.D., Belfast

### WASHINGTON

President, Rowland B. French, M.D., Eastport  
Secretary, Karl V. Larson, M.D., East Machias

### YORK

President, Kenneth E. Leigh, M.D., York  
Secretary, C. W. Kinghorn, M.D., Kittery

George J. Gonyar, Program Director of WABI-TV, who spoke briefly about the new monthly TV program "Ask Your Doctor." This program is being sponsored by the Penobscot County Medical Society and WABI-TV.

The scientific portion of the program consisted of a talk by Dr. Charles H. Okey of the State Department of Health. Dr. Okey was introduced by Dr. Wadsworth. A discussion period followed Dr. Okey's presentation.

A brief business meeting was held after the scientific portion of the program.

Dr. Rudolf Eyerer was elected to membership in the society.

Dr. Edward Hughes gave a report on the progress thus far of the Diabetes Committee.

PHILIP B. THOMAS, M.D.  
*Secretary*

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#### LINCOLN-SAGADAHOC

October 17, 1961

The regular monthly meeting of the Lincoln-Sagadahoc County Medical Society was held at The Ledges in Wiscasset, Maine on October 17, 1961. Sixteen members and guests were present.

Drs. Carl R. Griffin, Jr. of Boothbay Harbor and Arkadij Oceretko of Bath were elected to membership.

GEORGE W. BOSTWICK, M.D.  
*Secretary*

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#### KENNEBEC

October 19, 1961

The Kennebec County Medical Association was held at the Jefferson Hotel in Waterville, Maine on October 19, 1961, with forty-three physicians present.

Drs. Kevin Hill of Waterville and Alfredo Monsivais of the Augusta State Hospital were elected to membership. Also received in membership by way of transfer was Dr. Harry M. K. Peddie of Augusta.

Dr. C. Philip Lape, an associate surgeon at the Maine Medical Center, gave an interesting report of his recent experiences with reconstructive vascular surgery.

The dinner meeting was preceded by a social hour, at which members of the Kennebec County Woman's Auxiliary were guests.

The next meeting will be held on November 16 at the Veterans Administration Center at Togus.

EARLE M. DAVIS, M.D.  
*Secretary*

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#### CUMBERLAND

October 19, 1961

A meeting of the Cumberland County Medical Society was held on October 19, 1961 at Valle's Steak House in Portland, Maine. After a social hour and dinner, the meeting was called to order at 7:30 p.m. by the President, Dr. Robinson L. Bidwell.

The application for membership of Dr. Albert J. Grish, Pineland Hospital, Pownal, Maine by transfer from Oxford County was approved.

A brief report on the last meeting of the Health Insurance Committee was given by the Secretary.

The program for November was announced by Dr. Stephen E. Monaghan. It is planned to have a combined meeting with the Cumberland County Bar Association; the subject

to be malpractice. Dr. Elton R. Blaisdell announced that the annual diabetic drive was about to be started. This year the Mercy Hospital will conduct the program for Cumberland County and a motion was made and passed to provide up to \$100.00 in support of Diabetes Detection Week.

Dr. William Nute, a Medical Missionary from Turkey, was introduced by Dr. William L. MacVane, Jr. Dr. Nute spoke briefly about the role played by a modern medical missionary.

The remainder of the evening was devoted to a panel discussion of the New Nursing Practice Act which becomes effective January 1, 1962. The participants were Mrs. Eleanor Cornish and Miss Agnes Flaherty, both members of the newly appointed State Board of Nursing. Dr. George O. Chase acted as moderator and there were many questions and much discussion from the floor.

ALBERT ARANSON, M.D.  
*Secretary*

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#### New Members

##### KENNEBEC

Kevin Hill, M.D., 33 College Avenue, Waterville  
Alfredo Monsivais, M.D., Augusta State Hospital, Augusta  
Harry M. K. Peddie, M.D., 23 Western Avenue, Augusta

##### LINCOLN-SAGADAHOC

Carl R. Griffin, M.D., 69 Townsend Avenue, Boothbay Harbor  
Arkadij Oceretko, M.D., 37 Court Street, Bath  
Alan Zeller, M.D., Damariscotta

##### OXFORD

Leonidas B. Kudisch, M.D., 11 Franklin Street, Rumford  
Gisak Petrossian, M.D., 18 Hartford Street, Rumford

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#### Deceased

##### ANDROSCOGGIN

Everett C. Higgins, M.D., 149 College Street, Lewiston, October 6, 1961

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#### Change Of Address

##### AROOSTOOK

Raymond G. Giberson, M.D.  
From — 555 Main Street, Presque Isle  
To — 156A Academy Street, Presque Isle

##### CUMBERLAND

Richard B. Stephenson, M.D.  
From — 131 State Street, Portland  
To — 131 Chadwick Street, Portland

##### KENNEBEC

Richard L. Chasse, M.D.  
From — 173 Main Street, Waterville  
To — 18 Park Street, Waterville

##### SOMERSET

Edwin M. Lord, M.D.  
From — 39 High Street, Skowhegan  
To — R.F.D. Portland Avenue, Old Orchard Beach



# Letter To The Editor

## Dependents' Medical Care Program ODMC Letter No. 5-61

RE: POLIOMYELITIS AND INFLUENZA IMMUNIZATION  
AS PART OF COMPLETE MATERNITY CARE

Daniel F. Hanley, M.D., Editor  
The Journal of the Maine Medical Association

Dear Doctor Hanley:

1. *Amendment* — ODMC Letter No. 19, 9 September 1957, is amended by deletion of the phrase "including those receiving obstetrical and maternity care" where it appears in Paragraph 2 thereof.

2. *General* — In keeping with current practices related to the medical management of pregnancy, immunizations parentally administered against poliomyelitis and influenza are authorized benefits under the Dependents' Medical Care Program. These benefits are subject to the limiting conditions stated below. Such immunizations are considered, for the purposes of the Medicare Program, to be a part of complete maternity care.

3. *Effective Date* — The provisions of this letter will be applicable to all physicians' claims paid by fiscal administrators on and after 1 November 1961 bearing a "From" date not earlier than 1 March 1961.

4. *Authorized Services* — The attending physician will be reimbursed for his cost of poliomyelitis and/or influenza vaccine administered by injection to a dependent eligible to receive care from civilian sources under the Dependents' Medical Care Program when he determines that such immunizations are necessary for proper management of the maternity case. Separate payment is not authorized for professional ser-

vices and other supplies furnished in the administration of the vaccines, since remuneration is included within the allowances for prenatal care.

5. *Processing of Claims* — Fiscal administrators paying physicians' claims may be reimbursed, as allowable costs, for payments made to attending physicians for claimed cost of poliomyelitis and/or influenza vaccines when:

A. Services furnished are for medical management of maternity care.

B. The cost of the vaccine is adequately justified. A charge of \$1.00 per injection is considered reasonable cost of the vaccine; therefore, charges not in excess of \$1.00 per injection, when claimed, may be paid without the necessity for specific justification. When the claimed amount is in excess of \$1.00 per injection, justification is necessary. Adequate justification will include the manufacturer's name, the attending physician's cost and source of supply.

6. *Announcement* — Contractors are urged to announce this adjustment in the Dependents' Medical Care Program through their periodic publications. Cost of individual announcement to physicians is not an allowable cost.

W. D. GRAHAM  
Brigadier General, MC, USA  
Executive Director  
Office for Dependents' Medical Care  
Office of the Surgeon General, U. S. Army  
Washington, D. C.

## News, Notes and Announcements

### Maine Chapter Of The American Academy Of General Practice

The Maine Chapter of the American Academy of General Practice will hold an all-day postgraduate medical seminar on November 29, 1961 in Sanford, Maine at the Sanford Town Club.

### Maine M.D. In National Scene

Dr. Elton R. Blaisdell of Portland, Maine was reappointed American Diabetes Association Governor for the State of Maine for a three-year term 1961-64, according to a report received by the President of the American Diabetes Association in New York.

### Pineland Hospital And Training Center Pownal — Maine Conference Room — Treatment Building

1961

- Dec. 7 Lecture by Dr. Jones — "Psychotropic Medication"
- Dec. 14 Lecture by Dr. Kors — "Diagnosis in Child Psychiatry"
- Dec. 21 Lecture by Dr. Baar — "Pathological Findings in Mental Retardation"
- Dec. 28 Medical Films

### Schering Releases Medifilm Report III

Medifilm Report III, presenting highlights of the American Medical Association's 110th Annual Meeting in New York City, has been made available to medical and allied groups by Schering Corporation in cooperation with the AMA Department of Medical Motion Pictures and Television.

The 33-minute, 16 mm. black and white sound film features scientific exhibits, lectures and panel discussions. Host-narrator is Jeff J. Coletti, M.D., of Old Westbury, N. Y. Interested state and county medical societies may obtain a copy of

Medifilm Report III by writing to the American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois, or to the Audio-Visual Department, Schering Corporation, Union, N. J.

Of special interest is a demonstration of external cardiac massage at the 1961 Gold Medal Award exhibit manned by Guy Knickerbocker and W. B. Kouwenhoven, both of Baltimore. A mannikin is used to show the actual technique of closed chest cardiac massage.

Other subjects covered are office management of varicose veins (William Foley, M.D., New York, N. Y.); electrical anesthesia (James H. Hardy, M.D., Jackson, Miss.); new concepts in diabetes (Howard Root, M.D., Boston, Mass.); rubella in pregnancy (Frank Lock, M.D., Winston-Salem, N. C.); polycystic ovaries (Robert Greenblatt, M.D., Augusta, Ga.); the anxious out-patient (Jackson Smith, M.D., Chicago, Ill.); allergic reactions to drugs (Giles A. Koelsche, M.D., Minneapolis, Minn., and panel members); cine coronary arteriography (F. Mason Sones, Jr., M.D., Cleveland, Ohio); and part time medical mission work (Archibald Fletcher, M.D., India and Glendale, Calif.).

In conclusion, Dr. E. Vincent Askey, outgoing AMA president, speaks on the theme of the 1961 convention — teamwork in medicine.

### New Clinical Center Study On Medulloblastoma

The Chemotherapy Service of the National Cancer Institute is initiating studies on the chemotherapy of medulloblastoma with regional antimetabolites at the Clinical Center, National Institutes of Health, Bethesda, Maryland.

A limited number of patients who have undergone neurosurgery and radio-therapy will be accepted for study. Referrals of such patients will be greatly appreciated.

Physicians who wish to have their patients considered for this study may write or telephone: Dr. Myron Karon, Chemotherapy Service, General Medicine Branch, National Cancer Institute, Bethesda 14, Maryland; Telephone: OLiver 6-4000, Ext. 4252.

### American Board Of Obstetrics And Gynecology

The next scheduled examination (Part I), written, will be held in various cities of the United States, Canada, and military centers outside the Continental United States on Friday, January 5, 1962.

Current Bulletins may be obtained by writing to: Robert L. Faulkner, M.D., Executive Secretary and Treasurer, 2105 Adelbert Road, Cleveland 6, Ohio.

Diplomates of this Board are urged to notify the Office of the Executive Secretary and Treasurer of a change in address.

### American Diabetes Association Tenth Postgraduate Course

The program for the Tenth Postgraduate Course, *Diabetes in Review: Clinical Conference, 1962*, will be held January 17, 18 and 19 in Detroit and Ann Arbor, Michigan. The sessions of the first and third days will be at The Statler Hilton in Detroit, which will serve as headquarters. The second day's lectures are scheduled at the University of Michigan, Ann Arbor.

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The Wednesday, January 17, morning session will be devoted to "Fundamental Considerations" and will close with a question and answer period. Wednesday afternoon's lectures on "Pathogenesis" will conclude with a panel discussion on "Diabetes and Prediabetes — Pathogenesis and Prevention."

The Thursday sessions at Ann Arbor will offer a half-day each on "Insulin Assay — Antagonism and Acidosis" and "Related Metabolic Problems."

On Friday morning, January 19, the main topic, "Treatment of Diabetes Mellitus," will also include two panel discussions: "Problems in Management of Brittle Diabetes" and "Pregnancy and Diabetes." They will be followed by a luncheon address, "Myocardial Metabolism in Diabetes," by Richard J. Bing, M.D., Chairman of the Department of Medicine, Wayne State University College of Medicine.

The final afternoon of the Course will cover "Complications of Diabetes Mellitus" and will include a panel discussion on the same subject. Dr. Charles H. Best of Toronto, co-discoverer of insulin, will present the closing lecture "Present and Future Research Problems in Diabetes Mellitus."

*Accredittment:* The American Academy of General Practice will give 19 hours of Category II Credit for the Course. *Registration:* The three-day Course is open to Doctors of Medicine. The fee is \$40 for members of the American Diabetes Association and \$75 for non-members. *Social Activities:* All registrants will be guests of the Association at a Banguet to be held Wednesday evening, January 17. This occasion will be preceded by a Social Hour (by subscription).

Additional data and registration forms may be secured from: American Diabetes Association, 1 East 45th Street, New York 17, New York.

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**Course In Laryngology And Bronchoesophagology**

The Department of Otolaryngology, University of Illinois College of Medicine, will conduct a postgraduate course in Laryngology and Bronchoesophagology from April 2 through 14, 1962, under the direction of Paul H. Holinger, M.D.

Registration will be limited to fifteen physicians who will

receive instruction by means of animal demonstrations and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants will please write directly to the Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago 12, Illinois.

## Book Reviews

**What Teenagers Want To Know — Florence Levinsohn, B.A., M.A., in consultation with G. Lombard Kelly, M.D. Budlong Press, 5428 N. Virginia Avenue, Chicago 31, Illinois, 1961. Pp. 89. \$1.50.**

This soft-bound booklet on teenage sex problems apparently is for distribution by doctors to their patients. It deals with anatomy and physiology in lay terms and deals realistically with the social and sexual problems of the teenager. Such chapter headings as "All the way — why not?" are sure to be read and there is some good advice on dealing with parents. The parents of teenagers would probably benefit from reading this too.

In a confused world of shifting moral conduct, the teenager would get from this book not a firm code or moral conduct but a presentation of facts, much as he would get from his own doctor.

STANLEY W. KENT, M.D.  
Portland, Maine

**Ciba Foundation Symposium on Quinones in Electron Transport — Editors for the Ciba Foundation, G.E.W.**

**Wolstenholme, O.B.E., M.A., M.B., M.R.C.P. and Cecelia M. O'Connor, B.S. Cloth. \$11.00. Pp. 453 with 82 illustrations. Little, Brown and Company, Boston.**

This Ciba Foundation Symposium entitled "Quinones in Electron Transport," has brought together a distinguished group of authors who are interested in this field and participated in the symposium in May of 1960.

The investigations of these new quinones, including the ubiquinone, or co-enzyme "Q" series, have been the subject of increased interest and attracted the attention of many researchers in recent years, so such a symposium is now very timely. The interest of medical men will be focused on the investigations of the relation of the quinones to the chemistry and function of Vitamin K, and to the effects of co-enzyme "Q" and menadione on the oxidative enzymes in normal or neoplastic cells. Developments in this field have not yet reached the point where their practical application will stimulate widespread interest in this field among practicing physicians.

FRANKLIN F. FERGUSON, M.D.  
Portland, Maine

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## Clinico-Pathological Exercise

Case Presented at Eastern Maine General Hospital, Bangor, Maine

Discussion by

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### PRESENTATION OF CASE

A 32 year old white male was admitted in a state of coma and was having convulsive seizures every few minutes. According to his wife he had complained of severe migraine headache two days previously and had taken large amounts of aspirin with little, if any relief. On the evening before admission he had had some nausea and vomiting but this subsided. About one hour before admission his wife, states that she found him on the floor having a convulsion. As described by his wife, his head was pulled back, his eyes rolled back and his right arm was shaking, but the rest of his body did not move at all. Before help came he had a second attack which was more severe and lasted longer than the first and he still had no movement from the waist down or of the left arm.

His father died of tuberculosis. There were no other familial diseases. He had been checked periodically during his early years for acid-fast disease but no evidence of it was ever found. He spent seven years in the Navy and his only illness during that time was migraine headaches for which he was hospitalized.

Physical examination on admission revealed the following: pupils are deviated to the right, both are dilated, and do not react to light. Ears are externally negative with no discharge from either ear. Heart shows slight increase in rate (124) but rhythm is regular

and no murmurs are heard. Lungs are clear. Abdomen was negative, scaphoid type and not distended, and liver, spleen, and kidneys did not appear enlarged. The only area of the body that responds to any stimulation relative to reflexes is the right arm. Knee jerks and other reflexes are absent. No Babinski and no positive Kernig. There was some question about rigidity of the neck, but due to the spasmodic state the examiner believed there was none present. Patient was taken with a convulsive seizure during examination, epileptic in character, with spasm involving the right arm and facial muscles, but there did not appear to be any tremor in the rest of the body.

On admission he was given Sodium Luminal gr. V and MgSO<sub>4</sub> 50% 1 gr. IM and within one-half hour spasms were less severe. Foley catheter was inserted. Laboratory findings reported as follows: BUN 15 mg. Albumin 3 plus, Sugar 2 plus, Acetone trace, 0-3 granular casts, wbc 4-8/HPF, rbc 0-3/HPF. White blood count 34,600. Hgb. 96.0%. Hematocrit 43%. Differential: Neutrophils 95. Lymphs. 3. Monos. 2. Erythrocytes appear to be normal.

Because of the high white count Chloromycetin® 500 mg. was given intramuscularly.

At 11:00 A.M. he again became quite restless and pulled the catheter out. Sod. Luminal gr. 2½ was given which was effective. 1000 cc D/W was started intravenously.

At 1:00 P.M. patient began to show signs of cardiac decompensation. He developed mucous rales in

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the chest and slight cyanosis of the face at intervals; also some elevation in temperature  $R-101.4^{\circ} F$ .

At 3:00 P.M. a lumbar puncture was done and reported as follows: initial pressure -120. Fluid somewhat cloudy. Total Protein: 662 mg% (normal 15-40) Glucose 98 Mg. (normal 45-85) Cell count: 1094 per cubic mm. (normal 0-5); Predominantly polys. Some lymphocytes.

7:00 P.M. Respirations are labored and moist. Temp. was now (R)  $104.2^{\circ}$ ;  $MgSO_4$ , 2 cc, was given IM.

7:30 P.M. Respirations were very labored and color was dusky. The patient was suctioned and a large amount of dark bloody appearing drainage obtained; similar material was draining from the left nostril. 1000 cc D/W with 20 U regular insulin were started I.V. (Because of the positive test for glucose on admission the I.V. solutions were administered with insulin added.)

8:30 P.M. Patient became gradually weaker, respirations increasingly slow. Pulse and blood pressure were not obtainable.

8:45 P.M. Patient expired, approximately twelve hours after admission, and approximately seventy-two hours after the onset of symptoms.

#### DIFFERENTIAL DIAGNOSIS

The important thing in one of these exercises is not whether the discussant makes the proper diagnosis but whether his approach is orderly and disciplined. My first step in appraising this problem was to look up Wegener's granulomatosis. Dr. Wadsworth has struck out three discussants with this entity in three years and is not above trying again.

This approach being nonproductive, it was necessary to consider the causes of convulsions in a 32 year old white male with a history of migraine. For personal reasons, I have been interested in the likelihood of migraine being associated with other neurological disease. Although occasional equivocal EEG abnormalities have been noted, there is no connection between migraine and catastrophic episodes such as this.

"Large amounts of aspirin" is mentioned. This drug can cause convulsions, but hyperpnoea is not noted. At this juncture I will dismiss this and the other metabolic derangements causing convulsions such as hyperinsulinism. There is no supporting evidence for hyperinsulinism and there is no supporting evidence for convulsions caused by drugs or poisons.

Tuberculosis in the father is mentioned. Tuberculosis of the central nervous system would be quite unlikely in this age group and would not account for the fulminating disease.

The recorded details of the history and physical examination leave much to be desired. (It was revealed later that this patient was not treated at this hospital.) But since there is no mention of previous personality change, infectious disease, or toxin, it must be assumed that the history is negative in this respect.

The non-reactive, deviated, dilated pupils may be found with a variety of convulsive disorders. The normal ears and remainder of the general physical examination indicates no primary source for direct extension or infection to the brain, or source of a septic embolus. The reflexes noted in the right arm and the focal convulsions suggest involvement of the opposite prefrontal area. But unfortunately, as indicated below, the entities most likely to cause this general picture are less likely to involve this area. Areflexia accompanies comatose states. The lack of nuchal rigidity is helpful in minimizing the likelihood of primary meningitis and subarachnoid hemorrhage.

The urinary findings are those that might be found with any type of violent activity. Glycosuria can result from several mechanisms in brain disease. No blood sugar is noted, but the spinal fluid sugar suggests that it is normal. The marked polymorphonuclear reaction suggests a bacterial infection but also can accompany viral infection.

The administration of Chloromycetin and the delay in doing a spinal puncture suggests that the attending physicians were in much the same quandary as the discussant. It was felt that bacterial infection might be the cause, but that restraint in doing a tap should be used because of the possibility of a brain tumor. Tumors rarely produce such a fulminating picture.

The spinal fluid pressure was normal, and there was nothing to suggest that it was elevated. The protein of 662 mg.% is a striking finding. The condition most likely to produce such a level is obstruction of flow as in venous thrombosis. But there is little to support this diagnosis, nor is there evidence of arterial disease.

Bacterial infection is unlikely with spinal fluid sugar of 98 mg.% except very early in the disease. Also, the smear or culture would probably have been positive.

The very high cell count of 1094/c.mm., predominantly polys, is disconcerting. Bacterial infection is again suggested. Virus encephalitis is an important class of diseases not yet considered. Not only does the spinal fluid not suggest it, but most virus infections of the central nervous system have a slower course with more prodromata.

In wandering over the country and seeing Clinical Pathological Conferences, one notes a surprising difference in ground rules. Often the discussant is given the entire chart with only a few deletions. Not too long ago, due to a mixup, the discussant was not present at the Cabot Case presentation. A young clinician was grabbed out in the hall, and told to discuss the case. Dr. Castleman admitted that this was a traumatic experience for any physician, but that was the way the conferences at the Massachusetts General Hospital were once run. Our friend, Bill Dock, a well known C.P.C'er, not only believes that the discussant should get up cold, but that the case history should be unrolled like a scroll and read just one line at a time. Reading the entire



story gives one an advantage which those caring for the patient did not have.

But I studied. One entity I encountered was acute hemorrhagic encephalitis. In spite of the name, the spinal fluid is not bloody. It is presumably a virus disease since serial passages have been accomplished through animals. The onset is abrupt with headache and lassitude, death sometimes occurring within a few hours. Coma and convulsions occur with it. The temperature may be slightly or markedly elevated with no correlation between the severity and degree of fever. The pulse is rapid and respiration irregular. There is not only a leucocytosis but polys are markedly increased in the spinal fluid. One authority states that the cells are primarily monocytes, but another states they are polymorphonuclear leucocytes. There is an increased spinal fluid protein. I believe that this patient died with acute hemorrhagic encephalitis, in spite of Wechsler's admonition that one should make this diagnosis with great caution.

#### DISCUSSION

A discussion of the differential diagnosis was carried out by physicians attending the conference. Most of those present thought that a bacterial infection was the most likely diagnosis. One physician suggested the possibility of a silent subacute bacterial endocarditis with a secondary brain abscess. It was the general feeling of the group that once one had been committed to antibiotic therapy that it should have been more vigorous. The discussant, although he felt that the most likely diagnosis was acute hemorrhagic encephalitis, conceded that in any situation other than a C.P.C. he would have approached the patient with a real barrage of antibiotics.

#### CLINICAL DIAGNOSIS

Acute encephalitis, probably bacterial

#### DR. MASON TROWBRIDGE'S DIAGNOSIS

Acute hemorrhagic encephalitis

#### ANATOMICAL DIAGNOSIS

Acute hemorrhagic leukoencephalitis  
Bilateral pulmonary edema  
Bilateral focal pulmonary emphysema, upper lobes  
Chronic passive congestion of liver  
Acute bronchitis of left lung  
Acute proliferative glomerulonephritis

#### PATHOLOGICAL DISCUSSION

At autopsy cyanosis of the lips and nail beds were noted. The heart which weighed 310 gms. was not remarkable. There were no vegetations. Large bulbous blebs were demonstrated over the upper lobe of each lung. The bronchi of the left lung contained thick mucus and bloody frothy fluid. Microscopically the bronchi of the left lower lobe contained numerous polys.

Small focal areas of atelectasis were demonstrable in each lung.

The spleen and pancreas were not remarkable. The liver was large weighing 1600 gms. and the capsule was smooth, pale and reddish brown. The cut surface was yellow brown with prominent control markings. Microscopically there was a moderate amount of yellow-brown granular pigment in the liver cells of the central zones. There was no demonstrable fatty metamorphosis.

The combined weight of the kidneys was 300 grams. The capsules stripped readily. There was a sharp demarcation between cortex and medulla. Microscopically there was moderate congestion of the glomerular capillaries. Scattered glomeruli showed an increase in the number of nuclei with scattered demonstrable polys. Leukocyte casts could be demonstrated in occasional convoluted tubules. Reddish brown casts could be demonstrated in some of the collecting tubules. The blood vessels were not remarkable.

The brain was quite firm in consistency and weighed 1430 gms. The convulsions did not appear flattened. Serial coronal sections showed petechial hemorrhages extending throughout the parietal and occipital lobes of each hemisphere. Petechial hemorrhages were also noted in the pons and cerebellum. The spinal cord appeared grossly normal. Histologically the spinal cord was not remarkable. In the medulla there were noted perivascular infiltrations of polys and lymphocytes near the floor of the fourth ventricle. Polys could be demonstrated in the walls of some of the small veins. In the mid-brain were numerous perivascular hemorrhages and numerous perivascular cuffs of lymphocytes and polys. The glial stroma showed edema and dissociation with scattered polys. Numerous perivascular hemorrhages were also noted in the cerebellum where extensive polymorphonuclear infiltration involved the gray matter especially in the vicinity of the dentate nuclei. Many of the Purkinje cells showed acute cell change. Scattered small focal perivascular hemorrhages were noted in the subcortical white matter where there were diffuse areas of polymorphonuclear infiltration and rather extensive perivascular infiltrates of polys and lymphocytes.

Both the clinical course and the autopsy findings in this case appear to conform to the criteria of acute hemorrhagic leukoencephalitis described in 1941 by Western Hurst<sup>1</sup> who separated this condition from other forms of hemorrhagic encephalopathy. The onset is often sudden with fever and drowsiness or coma. The disease has been fatal in from one to six days. Convulsions have been reported in some cases. The cerebrospinal fluid shows a neutrophilic leukocytosis which occasionally exceeds 1,000 cells. The protein is correspondingly increased but the glucose and chlorides retain normal levels. In some cases there is a high leukocytosis in the peripheral blood.

The brain is usually congested and swollen. Petechial

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# School Physical Examinations

FREDERICK C. EMERY, M.D.\*

Being a school physician is an interesting experience. It provides an opportunity to examine a great many well children in similar age groups. It has its humor — such as a small boy striding into a waiting room filled with private patients, scratching himself vigorously and proclaiming, "I got the itch!"; its pathos — such as a boy ashamed to undress because he has no stockings to wear and is dressed in his mother's discarded underclothes; and its tragedy in parents refusing to have a child's hare lip and cleft palate repaired because, "this is God's will!". Its rewards lie in the occasional discovery of a serious cardiac disorder or a metabolic disease and initiating its correction; and in the association with children of all sizes, shapes, colors, and creeds, who are innately honest, sincere, and, as yet, unaffected by our adult mores. However, this experience is only one part of a school health program.

The health program in the Bangor public schools consists of the following:

- A. Two nurses, one physician, and all teachers as working personnel.
- B. Complete physical examinations done on all first and fifth grade students each year. Urines are tested for sugar and albumin as part of the examination. Defects are noted and those thought to be significant are reported to the parents with a request that the family doctor be consulted. Any family not able to afford private medical care is referred to the appropriate clinic. An interesting observation is that 75% of parents are aware of the defect with the exception of poor vision. Only a few families suspect a child of having difficulty in seeing. Each pupil free of reportable defects is given a slip to take home stating this fact.
- C. Each year the teachers screen every grade, except the kindergarten, for vision using a Snellen chart.
- D. The school nurses check the vision of the kindergarten pupils with a Snellen chart, and the fourth and ninth grade pupils with a telebinocular, annually.
- E. The hearing of the students in grades two, three, six, nine, and twelve is checked each year with an audiometer, by the school nurses. The teachers screen the other grades with a whisper test.
- F. All children in all grades are weighed and measured twice a year by the teachers, and the results plotted on a Wetzell Grid health card. This same card follows each pupil through his school years and contains pertinent facts concerning physical examinations, immunizations, and illnesses. The facts in this survey were obtained from these health records.

This study is not an attempt to explain the concept of a school health program, the need for such, its worth, or what it should or should not encompass. It was done to catalogue the various types of defects, to

discover which were the most frequent, to find which sex had the most defects, and to see if correctable defects were actually corrected. Having done about 8,000 school examinations in the past few years, it was felt that a comparison of the results of two examinations done on the same children by the same examiner would be of value. The records of 1,000 students were studied. These contained the findings of two complete physicals done four years apart, in the first and fifth grades. It is these findings that are presented.

## HEIGHT AND WEIGHT

There was no difference between the sexes in rate of growth. In four years the girls averaged 9.9" increase in height, the extremes were 6" and 15", and the average yearly growth was 2.5". The boys averaged 9.4" in four years with extremes of 5" and 15", and an annual growth of 2.3".

In weight gain the girls averaged 8.2 pounds per year and 33 pounds for four years. The extremes of four year weight gains were 10 and 61 pounds. The boys averaged 8 pounds per year and 32 pounds in four years, with extremes of 13 and 68 pounds.

There were more overweight boys than girls, and two of each sex were found to be underweight.

## DENTAL DEFECTS

Dental caries was found to be the most common defect in both sexes. A few minor cavities in an otherwise normal mouth were not considered important. Caries noted on these records is fairly extensive in amount, and was charted by the examiner or a dental technician.

Out of 440 girls examined, 110 had caries in the first grade, and 64 still had the same amount or more on reaching the fifth grade. In addition, 46 fifth grade girls were found to have cavities for the first time. Only 45 of the 110 first graders had been to a dentist for therapy.

Caries was present in 105 of 460 boys in the first grade, and 60 still had the same amount or more in the fifth grade. Fifty boys were found to have dental decay for the first time in the fifth grade. Only 42 of 105 boys had received dental care.

So 21.5% of all first grade pupils, and 22% of all fifth grade pupils in the Bangor public schools have poor teeth. About one third receive dental care. The incidence of caries is about the same in the two sexes.

## EYE DEFECTS

Defective vision was the most common defect noted

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here. It appeared equally in the sexes, and found in 60 out of 440 girls, and in 62 of 460 boys in the first grade. Of these 122 students, 116 received glasses. Although this was the defect least suspected by parents, it was the one most quickly corrected. By the fifth grade an additional 58 pupils were in need of glasses, and 53 were promptly provided. These figures show that 12.5% of first graders and 18% of fifth grade youngsters had defective vision, an increase of 6% in four years.

There were eight girls and ten boys with various types of strabismus noted in the first grade. All but two of these had been corrected by glasses or surgery before reaching the fifth grade. In these two instances parents refused to interfere with nature.

Miscellaneous eye defects consisted of five cases of chronic blepharitis, two instances of ptosis of the lid, and five artificial eyes.

#### EAR-NOSE-THROAT

Tonsillar hypertrophy and cervical gland enlargement were noted in 75 boys and 85 girls in the first grade. Here again, minor enlargement was not recorded. These were big tonsils showing evidence of chronic infection. Out of this total of 160 pupils, only 40 still had enlarged tonsils and glands four years later in the fifth grade. How many regressed spontaneously and how many were removed surgically is not known. There were 39 fifth graders who had enlarged tonsils for the first time. There was no difference between the sexes. The totals were 16% of first grade and 8% of fifth grade students with hypertrophied tonsils. How many were symptomless, how many had the usual troubles, is not known.

Hearing loss was found in nine boys and four girls in the first grade. This was a definite deafness and not one due to an acute ear infection, impacted ear wax, or other temporary cause. Here the boys outnumber the girls two to one. The deafness was still present in all of these by the fifth grade, and most were receiving therapy.

There were five cases of acute suppurative otitis and one chronic otitis. There were four drum perforations, one congenital absence of the external ear and canal, canal, and three foreign bodies noted. One pupil had a large silk suture through the upper pole of each tonsillar fossa, his tonsils having been removed two years prior to the examination.

As would be expected the boys presented five deviated nasal septa to two among the girls. One nasal spur and one nasal polyp were seen.

There were twenty speech defects noted in the first grade, 15 boys and five girls. All but one of these had cleared by the fifth grade. The exception was a repaired cleft palate.

#### HEART DEFECTS

Functional murmurs were heard in 45 girls and 57

boys in the first grade. This is a total percentage of 10.2. Of these, 55 or 5.5% were still present in the fifth grade. There were 50 girls and 30 boys noted to have functional murmurs for the first time in the fifth grade. Although the percentage decreased in the known group from the first to the fifth grade, enough new murmurs were heard in the fifth grade to increase the total percentage to 13.5. More boys than girls had functional murmurs in the first grade and the reverse was true in the fifth grade. Organic murmurs were heard in 11 pupils in the first grade. This is a percentage of 1. Two cases of patent ductus were found and these were corrected by surgery before reaching the fifth grade. There was one pulmonary stenosis and one sub-aortic stenosis. Two instances of mitral stenosis following rheumatic fever were noted. Five students were considered to have septal defects. Two children showed persistent extrasystoles in the first grade and again in the fifth grade. These did not cause clinical symptoms.

#### PULMONARY DEFECTS

Examination of the lungs was not productive. Out of 1,000 students examined twice, three were found to have rales. One was a chronic asthmatic and two were thought to have bronchitis.

#### ABDOMINAL DEFECTS

There were three umbilical hernias noted. These were large enough to need correction. Four inguinal hernias were seen. All of these were surgically treated before the student reached the fifth grade. One of each type of hernia was found in the fifth grade. One girl in the first grade was found to have an enlarged spleen. Study by the family physician proved this to be a congenital hemolytic anemia, and splenectomy was done.

#### GENITO-URINARY DEFECTS

In this group there were nine of undescended testes noted in the first grade. In two instances these had descended spontaneously by the time the fifth grade was reached, and one had received surgical treatment. Two pupils showed a moderate degree of hypospadias, and two large hydroceles were seen. Of the urines tested, ten showed albuminuria and four glycosuria.

#### ORTHOPEDIC DEFECTS

A pigeon breast deformity was seen in eight boys and two girls. None of these seemed to cause symptoms. There were three funnel chests, also asymptomatic. One case of Legg-Perthe's disease was found in the first grade. This had been present and untreated for two years with severe disability and deformity. Treatment through the next three years produced almost perfect leg function. There were two cases of thoracic scoliosis, one congenital absence of a finger, one congenital absence of a tibia, one congenital deformity of the fingers and toes, two instances of torticollis, and one lumbar kyphosis. One child showed marked atrophy

of the leg muscles from unknown cause, and one boy showed a congenital absence of the right pectoralis muscles.

#### SKIN DEFECTS

Four pupils were seen in the first grade with generalized eczema, one with tinea versicolor, one with hyperkeratosis, one with ichthyosis, four with ringworm of the body, one with tinea capitis, two with pityriasis rosea, one with psoriasis, and one with chronic urticaria. Two children were noted to have pilonidal cysts. There were three cases of atopic eczema appearing in the fifth grade.

#### NEUROLOGICAL DEFECTS

From a neurological standpoint, two cases of facial paralysis were seen. These were said to be sequelae of polio. There was one child with craniofacial dysostosis. Two children with known petite mal and two with grand mal disorders were examined.

#### MISCELLANEOUS FINDINGS

Three known cases of cystic fibrosis of the pancreas were noted. These were under therapy.

There were 52 children found to have accessory nipples, and these were equally distributed between the sexes.

One girl in the first grade was thought to have evidences of arachnoidactly.

In examining one girl for evidences of endocrine

dysfunction because of early breast enlargement, obesity, etc., it was noted that she had a prominent pigmentation of the linea nigra. Having always associated this finding with pregnancy, it seemed significant until it became apparent that practically all girls of all ages have a pigmented linea nigra. A few boys also show this. This physical finding is not mentioned in the books of physical diagnosis consulted, and no reference could be found calling it a normal finding, which of course it must be.

#### SUMMARY

Boys and girls of early school age grow at about the same rate with an average annual weight gain of 8 pounds, and an average yearly growth of 2.5 inches. Decayed teeth make up the largest group of defects in school children with tonsillar enlargement, defective vision, and functional cardiac murmurs following in that order. Boys seem to be more overweight than girls, have more speech defects, more deviated nasal septa, more pigeon breasts, and more hearing disorders. In the first grade there are more functional murmurs in boys than in girls, and the reverse is true of fifth grade students. Other defects occur equally in the sexes. The percentage of defects corrected is generally good with the exception of dental caries. About 75% of parents are aware of their child's defect with the exception of vision.

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### CLINICO-PATHOLOGICAL EXERCISE — *Continued from Page 357*

hemorrhages are usually visible in the centrum semi-ovale and may be demonstrated in the brain stem and cerebellum. The cortex and basal ganglia are usually spared. Histologically one sees necrosis of vessel walls, an exudate of polys, perivascular hemorrhages, perivascular infiltrates of lymphocytes and plasma cells. The etiology is unknown.

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# Is The Oral Cavity Neglected? \*

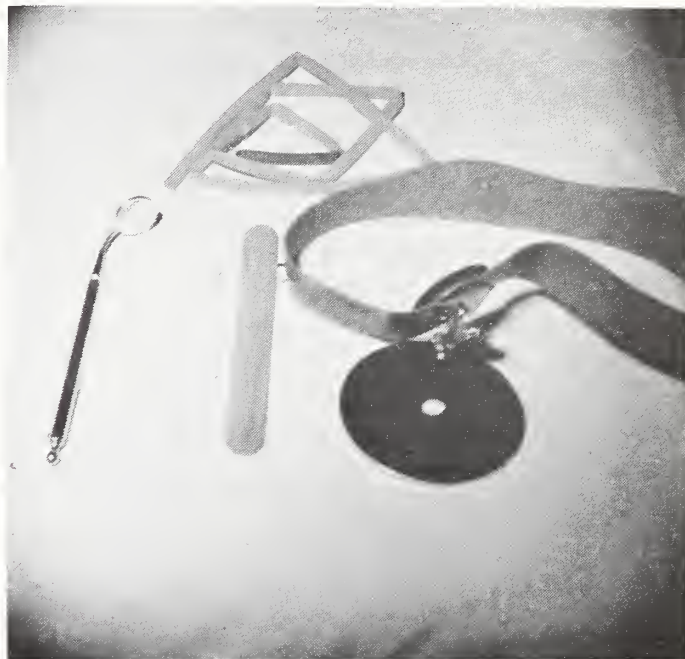
BYRON V. WHITNEY, M.D.\*\*

During one week, two patients came to the tumor clinic with far advanced cancer of the floor of the mouth. In each case there was a delay of six months attributable to a physician or a dentist. The lesions were in the posterior third of the mouth, the area not seen with a tongue depressor. These cases have prompted me to urge all of us to be more diligent in the examination of the oral cavity.

Six months to one year may pass before the patient has any symptoms from a mouth cancer. Pain is the one symptom the patient will heed and seek medical attention. If we fail to find the cancer, or treat it with antibiotics and lozenges, more precious time is lost, allowing local and lymph node spread of the cancer. A thorough oral examination should be done on every patient. In this way early mouth cancer will be found before symptoms appear.

The proper examination of the oral cavity should include visualization of the lips, mouth, posterior pharynx, tonsillar pillars and fossae, all of the tongue, larynx, and piriform sinuses. A head mirror should be used so that both hands will be free in aiding exposure. The examiner wears a finger cot on the left index finger and the right hand handles the tongue depressor. Changes in the surface epithelium are looked for, such as: discoloration, increased consistency, presence of tumor, ulceration. The lips are inspected and palpated. The mucosa of the floor and sides of the mouth, soft and hard palate, gingiva, and tongue are inspected and palpated. Dentures should be removed before starting the examination. Patients with dentures are much easier to examine as the exposure is better, and one does not worry about a bite of the palpating finger. With the use of a gauze sponge to put traction on the tongue the patient will have less gagging and cannot bite the examiner's finger. The posterior third of the tongue can be seen with the laryngeal mirror. The best evaluation can be obtained of this blind area with the palpating finger. The oropharynx and nasopharynx require the use of the laryngeal mirror and palpating finger. The required tools are not expensive and are undoubtedly present in every office. (See photo)

The neck should be thoroughly inspected and palpated for lymph nodes. Bimanual examination provides more information to the palpating fingers and should be done in the submental and submaxillary areas. Al-



Instruments necessary for proper oral cavity examination. In the rear of the photograph is a feeding tube easy to construct and well tolerated by the postoperative head and neck patient. It consists of a  $\frac{1}{4}$  inch diameter penrose drain 36 inches in length. One end is tied, 3 cc. of mercury is inserted into the tube and another ligature is placed proximal to the mercury. Several holes are made in the distal end of the tube proximal to the mercury. The feeding tube can be easily inserted in one nostril. The weight of the mercury will carry the tube down into the stomach with a few swallows by the patient. When the tube is in place it must be secured to the head, otherwise it will progress through the gastrointestinal tract.

though not associated with the mouth, the thyroid area should be included in the midline neck examination. the jugular nodes are then palpated beginning at the clavicle and working up to the angle of the mandible. The fingers should move anterior to the sternocleidomastoid muscle over the pulsating carotid artery.

If a lesion is found it should be biopsied for pathological diagnosis. It is important to find cancer early, but it is just as important to insist that the patient receive immediate and adequate treatment.

In reviewing patients' records for information to prove a point, the material wanted is frequently absent. This was my experience in looking at the hospital charts of twenty-six tumor clinic patients with oral cancer seen from 1956 to 1960. The delay in treatment was stated in twenty-five records, as the time interval between the patients' first symptoms and his admission to the hospital. This ranged from three weeks to twelve years, the majority being around one year. Only one

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# Paroxysmal Myoglobinuria With Respiratory Paralysis

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Muscle pain, weakness, and dark brown urine caused by myoglobin constitute a syndrome reported infrequently in the medical literature. Myoglobinuria may be associated with such entities as crush syndrome, arterial occlusion in the leg or electric shock. In the idiopathic variety of myoglobinuria, no such clear-cut etiology exists. The severity of the reported cases is variable. Fatalities from this disease usually result from renal insufficiency, or respiratory paralysis with its complications. Encountering two patients with myoglobinuria within a year, in the Eastern Maine General Hospital, both with paralysis of muscles of respiration, merits recording, and adding them to the literature.

## REPORT OF CASE ONE

A twenty-three year old airman was admitted to the Dow Air Force Station Hospital because of fever, weakness, dark urine, and nasal regurgitation of fluids for twenty-four hours. The muscular weakness was severe, generalized, and there was associated muscular stiffness and tenderness. The onset of the asthenia actually occurred three weeks previously and had been present continually, but to a lesser degree. The weakness followed a respiratory infection and short-lived episode of abdominal pain that subsided spontaneously. There was no past history of similar muscle weakness.

Physical examination revealed muscle weakness of all extremities. Although weak, he could sit up in bed and was able to walk around the ward. He could swallow solid foods, but nasal regurgitation of fluids was noted. The next five days, the urine remained dark, the weakness progressed, the voice became nasal in quality, and secretions began to pool in the oropharynx. A diagnostic test employing 10 mg of Tensilon® intravenously was negative. He developed facial weakness, diminished palatal movements, and weakness of the tongue. On the fifth hospital day, he was transferred to the Eastern Maine General Hospital where a tracheotomy was performed. Shortly after this, because of decreasing vital capacity, a tank respirator was employed.

Laboratory examinations revealed a white blood count of 19,150 per cu. mm. with 86 polys, 12 lymphs, 1 monocyte and 1 eosinophil. Hematocrit was 49. Sedimentation rate 10mm per hour. Plasma was pale yellow in color and contained no free hemoglobin. Urinalysis: specific gravity 1.013, albumin 3+, dark brown color, acid reaction, glucose and acetone negative. Microscopically, no white blood cells or red blood cells were seen. Benzidine test was positive for occult blood on three occasions. Urine porphobilinogen was negative on three occasions. Urine urobilinogen was normal. Blood serology negative. Serum bilirubin 1mg per cent. NPN 57 mg per 100 ml. Reticulocyte count 1.4 per cent. Stool guaiac negative. Coombs test negative. Repeat hematocrit 43 and 44 per cent respectively. LE preparation negative.

Electrocardiogram normal. Spinal fluid was under normal pressure and the spinal fluid cell count revealed five lymphocytes per cubic millimeter. Spinal fluid protein 28 mg%. Spinal fluid sugar 118 mg%.

The clinical course was characterized by dark brown mahogany colored urine for seven days with fever and increasing weakness of skeletal muscles. The severity of symptoms required continuous nursing care, tracheotomy, and mechanical respiratory aid. Coincident with the lightening of the urine color on the seventh hospital day, improvement in muscular strength, and a stronger voice were noted. Gradual improvement was progressive over the next ten days by which time the swallowing mechanism was normal and he no longer required the respirator. He was transferred to the Chelsea Naval Hospital after twenty-two days of hospitalization. While at that institution he had a biopsy of the left gastrocnemius muscle which revealed encysted larvae. The diagnosis of myositis caused by infestation with *trichinella spiralis* was established as the etiology of this patient's myoglobinuria.

## REPORT OF CASE TWO

A seventeen-year-old boy was transferred to the Eastern Maine General Hospital because of respiratory paralysis. The onset of the illness occurred with chills, fever and malaise of three days' duration. Muscular weakness and stiffness then developed, followed quickly by progressive respiratory paralysis. There was a past history of leg muscle cramps after physical effort. This had been observed to occur following such effort as playing basketball, running the 100-yard dash, and occasionally after walking home from school. The cramps did not occur, however, during the actual physical effort. Physical examination revealed extreme respiratory weakness, use of accessory respiratory muscles, and cyanosis. The lungs were clear to percussion and auscultation, and examination revealed the heart to be normal.

The patient was placed in a tank respirator with prompt improvement. The possibility of a disorder of pigment metabolism became apparent when dark brown urine was observed on the day of admission.

Laboratory studies were as follows: Examination of the urine revealed albuminuria, rare granular casts, 0 to 2 red blood cells per high power field, and guaiac test on the urine was 4+.

The blood plasma was grossly a light amber color and the plasma hemoglobin was 23.8 mg%. Biopsy of deltoid muscle revealed no active histopathology. Other laboratory tests included a hematocrit 44%, white blood count 10,650 per cubic millimeter. Differential included segmented polys 76%, bands 18%, metamyelocytes 1%, lymphocytes 2% and monocytes 3%. NPN 43 mg%. Potassium 5.2 meq per liter. Blood serology negative. Blood sugar 109 mg%. Spinal fluid protein 68 mg% and spinal fluid cell count zero. Malaria smear was negative. Trichinella skin test was negative.

The hospital course was characterized by rapid improvement. The vital capacity improved such that after twenty-four hours, he could be moved from the respirator periodically. On the third hospital day, his vital capacity was 2000 cc and he remained out of the respirator permanently. The urine

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became lighter on the third day. He was discharged on the fifth hospital day. For the next year this patient had muscle cramps in his legs after exertion. For the two years thereafter there have been no musculoskeletal symptoms. He has had no subsequent dark urine.

### DISCUSSION

The differential diagnoses in patients with severe muscle weakness include primary central nervous system disease such as poliomyelitis or Guillian-Barre syndrome and primary myopathy such as myasthenia gravis. Spinal fluid analysis is usually characteristic in the former diseases. Therapeutic trial with Tensilon or Neostigmine® in myasthenia gravis provides marked temporary relief of myasthenia. The passage of dark urine in these two cases suggested a disorder of pigment metabolism. The simultaneous finding of grossly clear plasma, and urine with a positive test for occult blood in the absence of hematuria suggests that the pigment is myoglobin. Further identification of the pigment can be made spectroscopically, or by its solubility in 80% saturated ammonium sulfate.<sup>1</sup> Spectroscopic differentiation of myoglobin and hemoglobin requires the use of a carefully calibrated spectrophotometer usually not found outside a research laboratory. Even with this instrument, differentiation is difficult because of the small difference in the position of the spectral bands of these two compounds.<sup>2</sup> Spectroscopic examination of the urinary pigment was not performed on the two reported cases. Kaufman,<sup>3</sup> in 1958, reported twenty-three of the thirty-four reported cases had the urine pigment identified spectroscopically, the remainder being accepted on the clinical and pathological grounds.

Hemoglobinuria produces a grossly dark urine, similar to myoglobinuria, but inspection of the blood serum reveals a pink to red color, and quantitatively it contains 100 mg% or more of free hemoglobin. Hemoglobinemia is the presence of extracorporeal circulating hemoglobin in excess of normal concentration. The upper limit of hemochromogens is 5 mg%.

Its presence is evidence of intravascular hemolysis. Ten cc's of hemolyzed blood in man is said to give a plasma hemoglobin level of 50 mg%. However, to maintain this level requires a breakdown of 30 gm of hemoglobin a day, which is six times the normal production.<sup>4</sup>

Myoglobin with a molecular weight of 17,500 is one-fourth the molecular weight of hemoglobin of 68,000. This accounts for the difference in the renal

threshold of the two pigments. The renal threshold for myoglobin is 20 mg%, whereas for hemoglobin, it is 100 mg%.<sup>5</sup> The plasma is, therefore, more quickly filtered of myoglobin than hemoglobin, and hence, gross inspection of the plasma in a patient with dark urine will be helpful in distinguishing these two pigments.

The urine in porphyria not infrequently has a pink to red color if porphyrins are present in large concentration. This abnormal color may develop only after exposure to light. Urine containing porphyrins is occult blood negative. In porphyria, there is no hemoglobinemia or hemoglobinuria. Porphyrins are identified by spectroscopic analysis.<sup>6</sup>

The etiology of idiopathic paroxysmal myoglobinuria is unknown. Historically, muscular exercise is commonly found to have precipitated the individual attacks. Avoidance of heavy exercise is recommended in these people. There is no known specific treatment. Supportive measures are employed in managing the individual attack and its complications involving the respiratory and GU systems.

### SUMMARY

Two patients are presented who demonstrate the clinical syndrome of paroxysmal myoglobinuria. One is considered to be idiopathic, and the other secondary to trichinosis. The findings were skeletal muscle weakness including muscles of respiration, with associated dark pigmented urine, which is red cell free, but positive for occult blood. The plasma was simultaneously clear. Both patients recovered with symptomatic treatment. A brief review of the differential diagnosis of disorders characterized by muscle weakness and pigmented urine is presented.

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# Fatal Midline Granulomatosis — A Case Report

WILLIAM B. BLAISDELL, JR., M.D.\*

A 46 year old white male was admitted to the Eastern Maine General Hospital with a complaint of fever and sore throat.

The history of his present illness goes back to at least a year when he began having a nasal discharge, headaches, and a feeling of fatigue and malaise. He had had a chronic infection of the left maxillary sinus which was confirmed by x-ray studies at least ten years previously. During this interval he would have occasional acute exacerbation of the infection but this was readily controlled by local treatment and antibiotic therapy.

During the winter he was treated for the sinus infection with local treatment and antibiotics and although it proved to be much more resistant to therapy, the response was satisfactory. Because of the increase in severity of his symptoms he was advised to have surgery on the sinus.

In June 1960 a Caldwell-Luc operation was done on the left antrum. The sinus was found to be full of chronic infected material as expected. This was removed, the sinus curetted clean, and a window made into the nostril beneath the inferior turbinate. Healing of the surgical wound was uneventful but instead of a rapid improvement in his condition following surgery he developed more symptoms. There was a complaint of a very sore throat and profuse nasal discharge.

He was seen frequently and the antrum washed through the artificial window but he complained of the sore throat more and more. There was little of significance to be seen in the nose except for the discharge, and the throat, aside from a mild nasopharyngitis, seemed unremarkable. He was understandably concerned about the possibility of a malignancy but at this time there was nothing that seemed abnormal to warrant a biopsy. With antibiotic therapy there would be some relief from his symptoms but at no time could he be called well.

In September, three months following surgery, his throat became worse and he began to run a persistent fever. At this time there appeared an ulceration of the nasal septum opposite the middle turbinate on the left side. Scrapings of this area were submitted for biopsy but nothing specific could be found.

He became rapidly worse and treatment became less effective so that on October 2, 1960 he was admitted to the hospital. Physical examination was essentially normal except for the ulceration of the septum and a mild nasopharyngitis. Temperature was 102.4; pulse 90; respirations 23. Laboratory findings were: WBC 7,450; Hemoglobin 13.5 gms., a normal differ-

ential, and normal urine. Serology was negative. Nose culture showed Staph. Aureus; throat culture showed Staph. Aureus, Staph. Albus, and Strept. Viridans.

He was started on large doses of Chloromycetin® which seemed to give some improvement. His temperature dropped although it still hovered around 100. On his ninth hospital day his temperature again rose suddenly to above 103 and his symptoms became more severe. His antibiotic was changed to tetracycline and again this seemed to bring about some improvement in his general condition.

During this interval the ulceration of the septum had progressed to a massive necrosis. It spread rapidly over the septum and finally perforated it. Both turbinates on the left side became necrotic and practically disappeared. After the perforation of the septum, the turbinates on the right side became necrotic so that the entire septum and the turbinates on both sides were eaten away.

At this time it was realized that this was probably a midline granuloma. Medical consultation was secured and all antibiotics were stopped to evaluate the situation. Blood cultures were taken which failed to show any growth. After the antibiotics were withdrawn the patient became rapidly much worse so that in three days, on October 23rd, he was severely ill. Antibiotics were again administered and he was started on prednisone 10 mg every six hours. There was a dramatic response to this therapy. The temperature dropped to sub-normal and remained there for over a week. Aside from the local symptoms of the nose and throat the patient felt very well; he was able to sit up in a chair and hopes were raised.

Previous to this week the necrosis had spread from the nose into the pharynx and had begun a marked invasion of the left pharyngeal wall. Under the steroid therapy the necrosis, although not completely halted, had slowed considerably so that it was felt that he was at least not getting worse.

On November 2nd, his 31st hospital day, his temperature again rose and there was a marked increase in the necrosis of the pharynx. From this time on he had daily elevation of temperature and his course was a steady decline. On the morning of November 10th he had a sudden hemorrhage from the left side of the pharynx. The bleeding, although of short duration, was severe and considerable blood was aspirated. Transfusion was performed and there was no more bleeding.

It is worthy of note that, although practically the whole inside of the nose and a lot of the left side of the pharynx had sloughed away, this was the first time that there had been any bleeding.

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Following this hemorrhage, his general condition steadily deteriorated. The necrosis in the pharynx progressed at a rapid rate so that the anterior and posterior pillars of the tonsil area on the left side were sloughed away. The necrosis extended into the tissue of the neck and to the soft palate. The entire left side of the soft palate melted away and a perforation appeared in the midline at the junction of the soft and hard palates.

On the night of December 3rd he had a small hemorrhage from the throat. It was not severe, the blood loss being 3 or 4 ounces. The next morning at about 12:45 a.m. he had a sudden massive hemorrhage and expired.

Post-mortem examination findings were essentially normal except for the nose and throat and a quantity of aspirated blood in the lungs. The left maxillary sinus from whence all this began was found to be essentially normal with no granulomatous tissue.

Fatal midline granulomatosis is a disease with recognizable clinical manifestations and pathologic characteristics. It was first reported about 1897 and there were other cases reported. In 1936 and 1939 Wegener published three cases characterized by a necrotizing granulomatosis of the nose, larynx, lungs and kidneys. A review of the literature then revealed that there had been many similar cases published but that they had had various interpretations and diagnoses according to the predominant symptoms.

This disease is a febrile inflammatory illness characterized by progressively destructive granulomatous supuration of the upper respiratory tract and, in the generalized form, with manifestations of disseminated systemic necrotizing granulomatous angiitis; the outcome is invariably fatal and may be due to renal failure, infection, hemorrhage or inanition.

Two stages of the disease are now recognized, a prodromal stage which may last months or years, and the active stage from which there is no return to good health. During the prodromal stage the most common symptoms are mild nasal or pharyngeal symptoms such as nasal discharge, nasal obstruction, epistaxis or sore throat. There are no physical findings at this time to raise suspicions of the disease. In the prodromal stage x-ray findings frequently show chronic inflammatory disease in the maxillary sinuses and one feature of this

disease is the severe reaction triggered by surgery. Surgery of the sinuses or biopsy of nasal lesions will frequently change the prodromal stage into the active, rapidly spreading, necrotizing affair.

The active stage begins with necrosis of the mucous membrane in the mid-facial area. This may begin in the nose, the septum, turbinates, or in the soft or hard palate. From this beginning necrotic lesion there is rapid wide spread necrosis and destruction of the tissues involving cartilage, bone, mucous membrane, and even skin. The destruction may be so severe that the nose, mouth, and pharynx are all one large cavity. There may also be granulomatous lesions of the larynx and trachea with the attendant symptoms of cough, obstruction to breathing, etc.

There are three identifying pathologic characteristics:

1. Necrotizing granulomatous lesions in the upper or lower respiratory tract or both.

2. A glomerulitis.

3. A generalized focal necrotizing vasculitis involving both arteries and veins.

In general, treatment of the condition has been without avail. Everything has been tried from the heavy metals and antibiotics to radiation and steroids. Whereas the outcome is invariably fatal, steroids offer considerable help in slowing the progress of the necrosis and especially halting it before it involves the skin, thus preventing considerable disfigurement.

The etiology of the disease is not known. In recent years there has been much accumulated evidence that a causative factor may be a hypersensitive reaction. The usual allergens such as foreign sera, drugs, etc. seem to have little to do with this. The theory has been put forth that this may well be due to tissue autoantigens. It is possible that initially there is a local tissue injury by chemical, physical, or infectious agent and that the altered host tissue itself acts as a foreign substance to stimulate the formation of autoantibodies. This would result in an inflammatory reaction which would lead to more damaged tissue and the formation of still more autoantibodies. This then starts a chain reaction which progresses rapidly to its fatal outcome.

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## IS THE ORAL CAVITY NEGLECTED? — *Continued from Page 361*

record gave evidence of physician delay in treatment, stating the patient was treated with antibiotics for one month. In this case symptoms were present six months prior to admission. The physician delay here would be one-sixth of the total time lost to treatment. None of the other records gave a reason for the delay in treatment. When this time interval is longer than six months, one has the feeling the history given is incomplete.

For several reasons, mainly the problem of obtain-

ing the records, only a small number of patients' histories have been reviewed. The physician or dentist delay in treatment time has not been proven or disproven. A plea is made for correct recording of patient and physician delay in treatment of cancer of the mouth. With this data in mind we will more diligently look for, feel, biopsy, treat early, and cure a higher percentage of mouth cancer.

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# Hereditary Nephritis With Unusual Urea Clearance – Case Report

HAROLD D. CROSS, M.D.\*

In 1959 Goldman and Haberfelde<sup>1</sup> reported the occurrence of 17 cases of renal disease (nephritis, uremia or albuminuria) in three generations of a single family. In their review of the literature two distinct syndromes were delineated from the twelve families studied (each with three or more generations affected).

Group I were distinguished by congenital hematuria, associated with albuminuria, red cell casts and exacerbations with infections and certain foodstuffs. A high incidence of perceptive deafness was also present. No affected male was known to survive past the age of twenty-nine. These cases resembled acute and chronic glomerulonephritis.

Group II were characterized by an onset, frequently after puberty, manifested by occasional chills, urinary tract infections, albuminuria, casts and pyuria. Death did not usually occur before the age of thirty. These cases resembled acute and chronic pyelonephritis.

The case being reported here is considered to be representative of the first group. In addition to the findings described by the above authors, this patient had an unusual series of urea clearances which are presented below.

## CASE REPORT

In March 1959, a 21 year old male sought medical attention for deafness which had been present six years. A routine urine examination at that time revealed 4+ albuminuria and a thorough medical work-up was undertaken.

*Past History:* No history of serious illness in childhood was elicited. Scarlet fever, rheumatic fever, pneumonia and diphtheria were denied. He had had several sore throats and ear infections. There was no history of renal disease. Operations: Repair of laceration two years before admission in out-patient department. Allergies: None known. Medications: None.

*Family History:* *Parents:* Mother 57, alive and well, without known renal disease.† Father 67, has unexplained fainting spells, no known renal disease.† In this generation (patient's aunts and uncles) there is no known renal disease.† *Siblings:* Three brothers, ages 25, 38, and 39 are alive and without known renal disease† or apparent deafness. One brother died at age 21 during a hospitalization for epistaxis. He was not known to have had renal disease. He had been moderately deaf several years. Admission laboratory studies included an NPN of 275 mg%, 0.175 gm% proteinuria with wbc's and rbc's in the sediment, and an hematocrit of 7%. No autopsy was done. All eight sisters, ages 23 through 37 are alive. No laboratory data are available on three, one of whom is said to have proteinuria with a current pregnancy.

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† no laboratory data available

Urinalyses (voided) were done on the remaining five in 1959, all of which were abnormal, showing proteinuria of 30 to 100 mg% in three patients, 10 or more wbc's in four, microscopic hematuria in two. Two have been examined in sufficient detail to establish chronic pyelonephritis in one and persistent proteinuria (100 mg%) in the other.

In the next generation only one family is known to be affected. One son, age 14, has had microscopic hematuria and proteinuria of 100 mg% or more since age 9. Deafness preceded these findings. Laboratory studies in 1960 included a cholesterol of 340 mg%, total protein 5 gm%, 2 gm% albumin, hemoglobin 9.3 gm%, BUN 40 mg%, 12-16 rbc's and 2-4 wbc's in urine sediment. In 1961 the BUN was 57 mg%, CO-2 was 20 meq, Hgb 7.5 gm%. Urinalysis revealed over 100 mg% albumin, 4-10 wbc, over 50 rbc, and hyaline casts. Another son, age 3, has 100 mg% albuminuria, no apparent deafness and has not been further evaluated. Two daughters have had normal urinalyses. Two siblings remain untested.

*Systemic Review:* Physical development had been normal. Maximum weight by history was 160 pounds, admission weight 134. He had been active, doing general labor work until admission for the deafness problem. A thorough system review revealed only the deafness and occasional blurriness of vision. There was no history of nocturia, dysuria, or frequency.

*Physical Examination:* The patient was a large-boned healthy appearing male, who was quite deaf for conversational speech. BP 140/82. Pulse 78. Weight 134 pounds. Height 67¾ inches. T 99.2 (0). The only abnormalities were scarred tympanic membranes, scarred tonsils, several carious teeth, and a Grade I systolic murmur along the left sternal border.

*Laboratory Studies:* Normal chest x-ray, electrocardiogram and intravenous pyelogram, Serology negative. Hemoglobin 14.2 gm%. Throat culture showed normal flora. BUN 16 mg%, S.G. 1.016 on overnight fluid restriction. Urine sediment contained 8-10 wbc's, 8-10 rbc's, many hyaline and granular casts. Twenty-four hour urine albumin was 2.3 gm, 3.4 gm and 3.8 gm on three determinations. PSP of 5% in 15 minutes, 35% in one-half hour. Cholesterol 475 mg%, total protein 4.5 gm%, 2.4 gm% albumin. The urea clearances were abnormally high (see Table I and discussion). Audiometric studies showed combined perception and conduction deafness.

With these findings the diagnosis of nephritis with latent nephrosis was made. His course over the next two years was marked by the following events. A tonsillectomy was done during the first hospitalization, and within a week of the tonsillectomy he developed a bilateral otitis media due to beta hemolytic streptococcus. Following clearance of this infection he remained asymptomatic over the next seven months, during which time he was on prophylactic penicillin. The blood pressure remained normal, twenty-four hour urine albumin excretions in December 1959 and January 1960, were 7.04 gm and 4.5 gm respectively.

In January 1960 a two week course of adrenocortical steroid therapy was given in an effort to control the albuminuria. Triamcinalone, 64 mg. daily was given orally in 4 divided



doses. Mild salt restriction was prescribed (no added salt). At the end of the two weeks of steroid therapy, the blood pressure had changed from 138/90 to 170/95 and the weight increased from 135 to 148. Twenty-four hour urine albumin done before and at the end of the two week treatment period were 4.5 gm and 5.5 gm respectively. Because of the development of hypertension which persisted and progressed and because of no decrease in the proteinuria, no further steroids were given.

In June 1960, (when admitted for evaluation for State Aid, still asymptomatic but advised not to do physical work), the hemoglobin was 10 gm%, CO-2 was 21 meq, BUN 24 mg%, PSP 15% in two hours, all reflecting evidence of progressive renal disease since the initial studies one year before. In February 1961, when he was seen because of bilateral otitis media, the blood pressure was 184/110. In late June 1961, increased fatigability developed followed by pulmonary edema and hemoptysis in July 1961. At that time the BUN was 134 mg% and the hematocrit 15%. He expired in August 1961 during an admission for convulsions. The blood pressure was 220/130. BUN 215 mg%. Lumbar puncture revealed bloody spinal fluid. He expired two days after admission.

Autopsy showed small granular pale contracted kidneys which, on microscopic examination, demonstrated severe chronic renal disease. The changes were consistent with advanced chronic glomerulonephritis.

The cause of death was a massive left intra-cerebral hemorrhage. Other findings of note were moderate cardiac hypertrophy of the hypertensive type, and pulmonary edema.

#### DISCUSSION

The etiology of the basic renal disease in this patient was not clearly established. Whether the hereditary aspect(s) of familial nephritis is related to streptococcal disease, as suggested by Robin and Gardner<sup>2</sup> is not resolved.

This patient was treated with adrenocorticosteroids in an effort to alter the basic renal lesion responsible for the proteinuria and secondary hypoproteinemia. The decision for steroid therapy was based on a report by Danowski, Mateer and Puntereri<sup>3</sup> in which 54 patients (ages 11 through 69) with proteinuria of varied etiology were treated with ACTH and/or adrenocorticosteroids. Complete remissions were obtained in nine patients (16%), partial in twenty-one (39%). The course of therapy followed in this patient was that outlined by Derow<sup>4</sup> except that triamcinalone was used rather than prednisone. Two or more two week courses of treatment were planned but not carried out because of the progressive hypertension, recurrence of ear infection and no significant change in the proteinuria.

Marked variation in urea clearance values were obtained over a three week period of testing. The most interesting observations were the high values (Table I). In only the first set of clearances were both specimens markedly elevated (381% and 166%). Values of 132% and 182% were obtained on subsequent specimens. These high clearance values did not appear to be related to salt intake. There is a suggested relationship to urine flow rate (volume) in that the four highest values were obtained with the highest flow rates (13.4 to 21.2 ml. per minute).

Assuming these values to be correct, the finding of higher clearances with the highest flow rates (strictly, only those above 12 ml. per minute) is unexpected since urea clearance is supposedly unaffected by flow rates above 6 ml. per minute.<sup>5</sup>

Errors in performing urea clearances may occur from: inaccurate timing and collection, loss or mixtures of the specimens, residual urine not obtained, dead space error from renal pelvis, and technical errors in analysis. The collections were all carefully timed and recorded in these studies. Conceivably mixture of specimens or loss in transport could have occurred, but neither would explain high values obtained in these studies. Residual urine was not determined because there was no clinical evidence for this and the patient had an uninfected urinary tract. Residual urine would not explain these high clearance data. Page and Culver<sup>6</sup> state that the dead space in the upper urinary tracts can account for an abnormal elevation in the urea clearance if the rate of urine flow is rapidly increasing. No data are given as to how much variation has occurred from this presumed factor. This phenomenon undoubtedly occurred in this patient, particularly in the collections with the highest flow rates. It seems unlikely that sufficient urea would be in the renal pelvis to account for these markedly elevated clearances. The urine and blood were analyzed by a Technicon Auto-Analyzer\* using the Diacetyl Monoxime method.<sup>7,8</sup> The machine was standardized with known concentrations of urea. Some of the samples were analyzed in another laboratory using the Urease method and were said to be in good agreement with the findings in this laboratory.<sup>9</sup> The Diacetyl Monoxime method has been compared with the Urease method and the variation between the two methods is less than 5 mg% even with concentrations of greater than 60 mg%.<sup>8</sup> Marsh, *et. al.*<sup>8</sup> state: "The data do not provide an adequate basis for excluding the possible presence of substances with the alpha-diketone reaction." In this patient who had a normal BUN at the time of these clearance studies and who was on no medications, the likelihood of unidentified chromagens seems unlikely.

#### SUMMARY

In summary, it is difficult to conceive of these clearances being high because of an artefact. Whether the high flow rate was a significant factor in producing them is only speculative. These findings are sketchy and inconsistent, but are presented to alert others to examine these features in similar patients.

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\*Technicon Instruments Co., Chauncey, N. Y.

TABLE I

## UREA CLEARANCE DATA

<i>Date Performed</i>	<i>BUN</i>		<i>Specimen #1</i>	<i>Specimen #2</i>	<i>Comment</i>
Sept. 23, 1959	15	UUN Vol. urine Time cc's/min CM % normal	220 mg% 820 cc 42 min 19.5 cc 286 cc 381%	140 mg% 1000 cc 75 min 13.4 cc 125 cc 166%	
Sept. 24	16	UUN Vol. urine Time cc's/min CM % normal	110 mg% 725 cc 50 min 14.5 99.6 132%	120 mg% 370 cc 60 min 6.2 46.5 62%	
Sept. 26	16	UUN Vol. urine Time cc's/min CS % normal	765 mg% 99 cc 60 min 1.65 62.1 115%	390 mg% 215 cc 62 min 3.43 CM 83.6 111%	
Sept. 30	17	UUN Vol. urine Time cc's/min CS % normal	700 mg 59 cc 55 min 1.07 43.2 80%	690 mg 74 cc 60 min 1.23 44.6 82.5%	restricted fluids
Sept. 30	17	UUN Vol. urine Time cc's/min CM % normal	215 mg 230 cc 58 min 4.0 50.5 67.3%	150 mg 450 cc 60 min 7.5 66.1 88%	forced fluids
Oct. 13, 1959	17	UUN Vol. urine Time cc's/min CM % normal	110 mg 1270 60 min 21.2 137 182%	70 mg 660 55 min 12.0 49.4 65.8%	has been on "no added" salt diet
Oct. 15	14	UUN Vol. urine Time cc's/min CM % normal	84 mg 825 cc 70 min 11.8 cc 70.8 94.4%	80 mg 900 cc 95 min 9.5 cc 54.3 72.4%	200 mg Na diet past 48 hours
June 15, 1960	23	UUN Vol. urine Time cc's/min CM % normal	90 mg 600 cc 60 min 10 39.1 52.1%	93 mg 515 cc 60 min 8.6 34.7 46.2%	

UUN == Urine urea nitrogen in milligrams %

CM == Maximum clearance (75 cc per minute)

CS == Standard Clearance (54 cc per minute)

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# The Journal of the Maine Medical Association

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## Across The Desk

### **Medical Education Report Stirs Cautious Optimism — Some Places**

The annual report on medical education of the American Medical Association expressed "cautious optimism" about the future supply of doctors and the facilities needed to train them.

The 1960-61 annual report, prepared by the AMA Council on Medical Education and Hospitals and published in the Nov. 11 AMA Journal, contained these encouraging developments.

- Plans for five new medical schools.
- An increase in enrollment in medical schools.
- Evidence that the quality of medical students has remained relatively constant since 1954.
- Indications for a future increase in medical school applicants.
- Stepped-up efforts to attract students into the medical profession.
- A trend toward relaxation of geographical restrictions on applicants to publicly owned medical schools.
- An increase in full-time faculty members in medical schools.

The Council said the establishment of new medical schools had been assured by five universities — Brown, Rutgers, Connecticut, New Mexico and Texas.

In addition, it said, "favorable decisions can be expected to result from some of the many feasibility studies" under way in almost every region of the country. The possibility of new schools is being investigated in Arizona, California, Idaho, Illinois, Maine, Massachusetts, Michigan, Minnesota, New York and Ohio, it said.

"In the modern history of medical education in the United States it is doubtful that there has been any other single year in which a commitment of similar magnitude has taken place," an accompanying Journal

editorial said. "However, neither has there existed during this period a need so great as that of the present."

The editorial pointed out that since 1951 bills which would provide federal matching grants for construction of medical teaching facilities have been introduced into Congress but have not been enacted.

The proposed bills could reduce by up to three million dollars the funds which must now be raised from local or other non-federal resources for the construction of each new school, it said.

"With this windfall on several occasions appearing to be just around the corner, it is reasonable to speculate that universities considering the establishment of new medical schools may have delayed their final decision pending Congressional action," the editorial said.

"The need for federal assistance in construction of new teaching facilities remains acute and it is reasonable to assume that Congressional indecisiveness may represent the worst possible alternative."

Enrollment in the nation's 86 medical schools in 1960-61 totaled 30,288, an increase of 204 students over the previous academic year, the Council reported. First-year enrollment increased by 125 students over the previous year, it said. Forty of these were students enrolling for the first time at the new College of Medicine at the University of Kentucky, it said.

The report included statistics from three sources relative to the academic competence of students entering medical schools. Surveys of the number of "A," "B," and "C" students entering medical schools showed that "there has been relative stability in the college record of students admitted to medical schools since 1954."

Admission test results, from 1952 through 1959, also revealed that medical students had "rather stable test score averages," the report said.

In addition a study of the career plans of last June's college graduates showed that "roughly half of the

students who entered medical school in the fall of 1961 demonstrated high academic performance in college and less than 10 per cent were in the low academic range."

The report also included results of a recent survey conducted by the AMA Council to determine if there was an "actual decrease in the number of college students seriously preparing for medicine."

The Council surveyed 115 colleges and universities which supply more than 70 per cent of the medical students.

The survey indicated that the percentage of identifiable premedical students has remained relatively constant since 1956.

"Provided that the number of identifiable premedical students by itself is a good index of the future number of applicants to medical school, these data could be a cause for optimism for an increased number of applicants in the future," the Council said.

A section of the report, devoted to student recruitment activities, pointed out that more and more medical schools are organizing formal recruitment programs.

"Some of the most effective programs are conducted in cooperation with state or county medical societies," the report said. "The principle of such a cooperative approach is appealing and it is encouraged by the Council . . .

"It is difficult, if not impossible, to assess quantitatively the effect of this increased activity in recruitment, but there can be little doubt that it will have a favorable influence on the future supply of medical school applicants."

A Journal editorial said: "If the number of medical graduates is to be increased, we must first provide additional training facilities. When this is done and when financial aid for the study of medicine becomes available to an extent comparable to that for other fields, and when the satisfaction gained by the physician in his profession is truly emphasized, then there will be capable students ready to accept the opportunity and the challenge."

The Council also reported a "definite" and "encouraging" trend toward relaxation of restrictive admission policies of publicly owned medical schools "where residence in the state in which the school is located is often an important criterion for admission."

There were 353 non-resident freshmen students enrolled by 40 publicly owned schools in 1957, while 513 were enrolled by 41 schools in 1960, almost a 50 per cent increase in numbers, the report showed.

"Frequently the state which imposes geographical restrictive policies hopes by doing so to insure a greater supply of physicians for that state, on the theory that a state resident is likely to practice medicine in his home state," the Council said. "At one time this was probably more nearly true than it is today."

A recent study reported that the proportion of grad-

uates in private practice in the same state as the medical college attended decreased steadily from the 1930 to the 1950 graduating class, the Council pointed out.

The report contained "generally reassuring" information on the future supply of medical teachers which will be needed in 10 years to train "an additional 3,500 medical students per year," according to a Journal editorial.

There was a "significant increase" in the number of full-time faculty members in medical schools, the report showed. The number increased six per cent from 10,468 in 1959-60 to 11,111 in 1960-61.

For the first time in several years, there also was a decrease in the unfilled faculty positions from the previous year. Current vacancies represented only four per cent of budgeted positions, the report showed.

"The decrease in the number of unfilled positions during the year may indicate a reversal of the trend of the past several years and some alleviation of the shortage of faculty members," the Council said.

### **How Long Will I Be "Out", Doctor**

During the year ending June 30, 1960, illness and injury caused the American people to stay home from work, stay in bed, or otherwise cut down their usual activities for an average of 16 days per person, including six days of bed disability, the Public Health Service said recently.

These estimates come from the latest in a series of published statistical reports of the Service's National Health Survey. They apply to the civilian population of the country exclusive of persons confined to long-term institutions.

The figures are similar to those reported for the year ending June 30, 1959. However, estimates for both these years are well under the figures for the year ending June 30, 1958, which covered the period of the Asian influenza epidemic. During that year the average was 20 days of restricted activity, including eight days of bed disability.

The new report also shows that during the year ending June 30, 1960, more disability was experienced by women than by men. People over 45 had more disability days than did younger persons, with the rate increasing sharply with advancing age.

People who live in rural farm areas of the country reported more days of disability, on the average, than those living in urban and rural-nonfarm areas. Those in the lowest income groups reported the highest rates of disability, and the number of disability days dropped consistently with rising income.

People who live in the South reported more disability days than persons in other sections of the country. The lowest number of restricted activity and bed disability days was reported by residents of the North Central States.





# From the Secretary's Notebook

## Council Meeting - - October 22, 1961

The October meeting of the Council was held at the Association's headquarters in Brunswick, Maine and was called to order by the Chairman, Ernest W. Stein, M.D. at 10:30 a.m. Present, in addition to Dr. Stein; Drs. James A. MacDougall, Ralph C. Stuart, Thomas A. Martin, Charles W. Eastman, Carl E. Richards, Daniel F. Hanley, Mr. John F. Kiser, Field Representative, American Medical Association and Mrs. Kennard. Absent: Drs. Asa C. Adams, John F. Dougherty, Clyde I. Swett, Raymond E. Weymouth and George J. Robertson.

1. Mr. Kiser referred to pending Federal Legislation — specifically HR 4222, similar to the Forand Bill, a Social Security program designed to give health benefits to all persons over a certain age whether or not they need it. A.M.A. feels that it is bad medicine and bad government to establish such a program. At the hearings last summer, A.M.A. presented a 91-page document of sound opposition to this legislation which they feel was effective. It was suggested that members meet with their Senators and Representatives while they are home and for this purpose the following committee was appointed:

Carl E. Richards, M.D., Sanford  
 Philip P. Thompson, Jr., M.D., Portland  
 George J. Robertson, M.D., Waterville  
 William F. Mahaney, M.D., Saco  
 Robert F. Ficker, M.D., Kennebunkport  
 Charles W. Kinghorn, M.D., Kittery  
 C. Harold Jameson, M.D., Rockland  
 Paul A. Fichtner, M.D., Rangeley  
 Harold N. Willard, M.D., Waterville  
 Harry M. Helfrich, Jr., M.D., Presque Isle  
 Asa C. Adams, M.D., Orono  
 Linus J. Stitham, M.D., Dover-Foxcroft

These members will be urged to contact other physicians to assist with this program.

2. The following resolution was presented by Stanley C. Beckerman, M.D. Director, Division of Cancer Control, State of Maine Department of Health and Welfare.

WHEREAS: The Maine Medical Association represents the medical profession of the State of Maine, and

WHEREAS: This association is aware of its

responsibilities toward the citizens of the State of Maine, and

WHEREAS: There is mounting evidence of a causal relationship between cigarette smoking and lung cancer, and

WHEREAS: No less a person than the Surgeon-General of the United States Public Health Service has noted this causal relationship, and

WHEREAS: It has been estimated that 1,000,000 of our present population of school children will die of lung cancer if present cigarette smoking trends continue

BE IT RESOLVED: That the Maine Medical Association, aware, as it is, of its duty to alert the citizens of the State of Maine of public health hazards, wishes to acknowledge the causal relationship between cigarette smoking and lung cancer, and

BE IT FURTHER RESOLVED: That this Association desires to encourage the dissemination of information regarding the causal relationship between cigarette smoking and lung cancer.

It was voted that this resolution be presented at the next meeting of the House of Delegates.

3. Matters presented by Dr. Hanley:

(a) **Internal Revenue Service re: Maine Medical Education Foundation** — Dr. Hanley explained that he has received a letter from the Internal Revenue Service dated October 17, 1961 which states that a determination of our status cannot be made until after we have actively operated for a period of twelve months.

(b) **Letter from the President's Committee on Employment of the Physically Handicapped re: 1961 Physician's Award** — Members of the Council were instructed to send to M.M.A. headquarters the name of any physician who has made an exceptional contribution to employment of the handicapped.

(c) Dr. Hanley called attention to the 16mm sound film of the 110th annual meeting of A.M.A. as excellent for hospital staff meetings or county society meetings. The

*Continued on Page 378*



# ANSWERING QUESTIONS



## Symptoms Of Discontent

Doctors participate in Blue Shield programs for their own profit and they frequently raise their fees to patients enrolled in Blue Shield. There's no doubt that the doctor is professionally competent, but he's often pretty impersonal and seldom acts like the "dedicated" person he's supposed to be.

These were some of the general conclusions of a recent pilot study of consumer attitudes toward Blue Cross and Blue Shield. The surveyors found many people's feelings about Blue Shield — based on their experiences when seeking Plan benefits through their physicians — are less favorable today than six years ago.

Although these findings are admittedly inconclusive and not necessarily applicable to any but the areas of the pilot study, they will be ignored at our peril. Medicine needs the best possible public image in the days ahead if it is to preserve the free environment in which doctors can best serve their patients.

What's to be done? Both immediately and ultimately, it's up to you and me. Dr. Francis Peabody once said, "The secret of the care of the patient is in caring for the patient." In today's world, this means a lively, thoughtful concern for each patient's personal welfare, his time, his problems, and — not least — his pocketbook.

Blue Shield was created in the doctor's image. And the doctor's image, in the long run, will control the destiny of Blue Shield and of the private practice of medicine.

Editor's Note — The State of Maine was not included in this survey.





DEAN H. FISHER, M.D.  
COMMISSIONER

State Of Maine

## Department of Health and Welfare

### Histoplasmosis Sensitivity Among State Hospital Patients

ALTA ASHLEY, M.D.

Histoplasmin sensitivity has not been considered to be prevalent in the native population in Maine, and when present has been thought to be due to infection acquired elsewhere, more than likely in the Ohio-Mississippi Valley. However, in the past several years there have been found through community chest x-ray surveys persons with pulmonary calcification and negative tuberculin but positive histoplasmin sensitivity. Among the first such cases were three members of a family who had spent their entire lives in the lower Kennebec Valley and showed characteristic miliary calcifications and marked histoplasmin sensitivity. In a recent chest x-ray survey in the Rumford area there were found several more individuals who reacted to histoplasmin and who had not spent any significant period of time outside the State of Maine.

In order to see whether or not significant sensitization has occurred in the state, a survey was conducted on patients in a Maine State Hospital in February, 1961. State hospital patients were selected for the survey because the population is reasonably stable, making testing and reading easy, and is representative of the Central and Western parts of the state.

It was requested that patients chosen for testing be between the ages of 20 and 60, would have been hospitalized less than five years, and would have spent little or no significant length of time outside the state. This was an attempt to eliminate the young, who might not have had time to develop sensitivity; the old, who would possibly reflect conditions present many years ago and no longer obtaining; and persons living most of their lives in the abnormal and protective environment of a state hospital, as well as those who might have been infected elsewhere.

One hundred and sixty-five persons were tested — 79 women, 86 men. Ages ranged from 18 to 80, with only six persons not within the 20 to 60 age group. Thirteen reactors were found, all of whom were between the

ages of 35 and 64. Four had marked erythema and necrosis, as well as induration measuring 15 to 80 millimeters in the greatest diameter. All four of these persons had spent considerable amounts of time outside the state. One 35 year old woman was a native of Ohio and had lived only five years within the state; one woman had lived many years in New York City; a third woman had lived both in New York City and in Washington, D.C. for several years. The one man in this group was a native of Massachusetts and as a merchant seaman had visited many parts of the world, including the Orient.

The other nine cases had reactions measuring 5-8 millimeters, and were of a mahogany rather than the more typical rosaceous discoloration of the larger reactions. None of these cases had left the state; some were from rural areas, some from small cities and towns. Only one was from a metropolitan area (Portland).

Age distribution of the group tested and the reactors was as follows:

<i>Age Group</i>	<i>Total</i>	<i>Reactors</i>	<i>Reactor Rate</i>
15-24	23	—	—
25-34	32	—	—
35-44	37	5	13.5
45-54	50	4	8.0
55-64	22	4	18.2
65+	1	—	—
Total	165	13	7.9

The over-all reactor rate, assuming anything 5 millimeters or larger as positive, was 7.9% in this series, not an insignificant rate. This skin testing program shows that histoplasmin sensitivity is present even among persons who have never left the state.

Chest roentgenograms on all reactors had been done prior to this survey. In only one patient were calcifications reported. This person is a known case of healed tuberculosis, and was hospitalized because of positive sputum cultures prior to his State Hospital admittance.

\*District Health Officer, Augusta

In view of the apparent role of starlings in the dissemination of histoplasma capsulata, it is not surprising that sensitization has occurred among Maine resi-

dents, for the starling has been a visitor to the state for many years. It is surprising, perhaps, that sensitivity is not more widespread.

# Statement To Physicians Concerning Tuberculin Skin Testing\*

Recommendations of the Maine Thoracic Society for tuberculin skin testing have been prepared for general use by public health personnel, tuberculosis workers, and other lay groups, who might be involved. Because these recommendations deal mainly with testing for epidemiologic information, which is becoming an increasingly important role of skin testing, the value of the test to the private practitioner has been mentioned only in passing.

Skin testing done by the private physician in his office is valuable, not only as a case-finding tool, but also as a means of differential diagnosis and a guide to care of contacts. If every physician could make a practice of testing certain groups of persons in his practice, many hitherto unknown cases of active tuberculosis would be uncovered.

The groups most important for office practice testing are:

- 1. Infants and preschool children. Close contacts of such individuals are generally limited, making finding the source of infection relatively simple. It usually involves examination of only family contacts and the baby sitter, if any.
- 2. Contacts of known cases. Negative reaction removes the necessity of x-ray follow-up, except in the instance of overwhelming tuberculous infection or history of recent measles or pertussis infection, conditions which tend to depress skin reactivity.

Recommended Schedule for Retesting Skin Test Negative Contacts:

Age	While Contact Prevails	After Contact is Broken
Under 3 years	Every 3 months	2 months
Over 3 years	Every 6 months	2 months

Positive skin reactions develop in about 7 weeks after infection takes place.

Diagnosis of active disease should be made only after results of x-ray, laboratory and clinical examination have substantiated the diagnosis.

3. Diabetics. Tuberculosis is more serious among diabetics than nondiabetics.

- 4. Chronic chest conditions such as  
asthma, especially in children  
chronic bronchitis  
"cigarette cough"

5. Persons making a poor or slow recovery from "flu" and pneumonia.

6. Obscure fevers.

7. Cases with hemoptysis. It must be borne in mind that tuberculosis is only one cause of this symptom. Mitral stenosis, lung carcinomatosis and other chest conditions are more frequently the cause of bloody sputum in persons of middle age and older.

8. Hospital admissions under 18, in lieu of routine chest x-ray.

9. All other persons at high risk of tuberculosis infection. Since the cases of active disease of tomorrow will be found in large part in positive reactors of today every effort should be made to keep these reactors under surveillance if tuberculosis control is to be accomplished.

10. Persons on steroid therapy. All persons on corticosteroid therapy should first be tested prior to receiving therapy. If reaction is positive careful watch for activation of the disease must be maintained, keeping in mind that steroid therapy not only tends to activate infection but also may mask the symptoms of infection. Also the tuberculin test in the presence of steroid therapy may be depressed and result in false negative reaction.

Multiple puncture tests such as the Tine test or the Panray modification of the Heaf test may be used in testing in office practice when the use of the Mantoux test is not feasible. Such tests, however, are not yet acceptable for epidemiologic surveys.

The Vollmer patch test is not recommended and should not be used because of the high percentage of false positive as well as false negative reactions which it produces.

\*This statement is an addendum to the article on *Policy in Tuberculin Testing* published in the November, 1961, issue of The Journal. The complete policy statement with addendum was prepared by a committee of the Maine Thoracic Society, medical section of the Maine Tuberculosis and Health Association at the request of the board of directors. Alta Ashley, M.D., Health Officer, District III, Department of Health and Welfare is chairman of the committee and other members are: Frederick C. Emery, M.D., Bangor; William B. Grow, M.D., Superintendent, Central Maine Sanatorium, Fairfield; George W. Wood III, M.D., Brewer and Marguerite C. Dunham, Health Officer, District VI, Department of Health and Welfare.



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# County Society Notes

## KNOX

October 17, 1961

A meeting of the Knox County Medical Association was held at the Knights of Columbus Hall in Rockland, Maine on October 17, 1961.

A very interesting panel discussion on "Cancer of the GI Tract" was sponsored by The American Cancer Society. Members of the panel were: Drs. Eugene E. O'Donnell, William L. MacVane, Jr., Richard B. Stephenson of Portland and Edward K. Morse of Rockland.

The next meeting of the Association will be held on November 14, 1961 at which time Dr. Herbert J. Levine of the New England Medical Center in Boston will speak on "Errors in Cardiology."

MUSTAFA V. ONAT, M.D.  
*Secretary*

## ANDROSCOGGIN

November 16, 1961

A joint meeting of the Androscoggin County Medical Association and the Androscoggin County Dental Association was held at the Stephens House in Auburn, Maine on November 16, 1961.

The speaker of the evening was Dr. William Rogers of the Massachusetts General Hospital and Pondville Hospital in Cambridge. He spoke on "Malignant Disease of the Head and Neck" and illustrated his remarks with slides. Dr. Rogers proved to be an extremely keen and dynamic speaker. A question and answer period followed.

The Nominating Committee consisting of Drs. John A. James, chairman, Paul J. Fortier and Paul J. LaFlamme was appointed.

DONALD L. ANDERSON, M.D.  
*Secretary*

## KENNEBEC

November 16, 1961

A meeting of the Kennebec County Medical Association was held at the Togus Veterans Administration Center on November 16, 1961.

Drs. Paul A. Jones, Jr. and Joseph F. Stocks of Waterville and George R. Landwehr of Augusta were elected to membership.

A Nominating Committee was appointed by Dr. Philip Dachslager to submit a slate of officers for 1962 as well as the delegates and alternates to the Maine Medical Association.

Dr. David Lippman, the Chief of the Cardiology Section of the West Roxbury Veterans Administration Hospital, presented the clinical portion of the meeting. He described some recent advances in the diagnosis of coronary artery disease, using the balistocardiogram, radio-active iodine in serum albumen, and radiographic demonstration of coronary artery flow using aortic catheterization with injection of radio-opaque dye.

The next meeting of the Association will be held on December 14 at the Augusta State Hospital at which time Dr. William E. Schumacher will present the results of his recently established mental health program.

EARLE M. DAVIS, M.D.  
*Secretary*

## CUMBERLAND

November 16, 1961

A joint meeting of the Cumberland County Medical Society and the Cumberland County Bar Association was held at Valle's Steak House in Portland, Maine on November 16, 1961. A social hour was followed by dinner. One hundred and seventy members and guests were present including: Mr. William Mahoney, President of the Maine Bar Association and Dr. James A. MacDougall, President of the Maine Medical Association.

The agenda for the evening consisted of a panel discussion on Medical Malpractice, or as it is now known, Medical Negligence. The legal profession was represented on the Panel by Mr. James Desmond and Mr. Francis Rocheleau; the medical society by Drs. Thomas A. Martin and Albert Aranson. Discussion included the malpractice situation in Maine with pertinent statistics, general rules of liability, informed consent, and the availability of medical witnesses. This was followed by a discussion by Professor William Curran of the Boston University Law and Medical School, as well as questions and answers from the floor.

A Nominating Committee consisting of Drs. George F. Sager, Richard B. Stephenson and David K. Lovely was appointed and the President, Dr. Robinson L. Bidwell announced that the December meeting would consist of the election of officers and committees. Also there will be a talk by a representative of the Internal Revenue Service.

ALBERT ARANSON, M.D.  
*Secretary*

## LINCOLN-SAGADAHOC

November 21, 1961

A meeting of the Lincoln-Sagadahoc County Medical Society was held at The Ledges in Wiscasset, Maine on November 21, 1961.

The application for membership of Dr. Anthony Betts of Bath by transfer from Kennebec County was approved.

Reuben Leitman, M.D. of Lewiston spoke on "Depression."  
GEORGE W. BOSTWICK, M.D.  
*Secretary*

## New Members

### ANDROSCOGGIN

Donald A. DeCosta, M.D., Poland Spring  
E. Stanley Young, M.D., Poland Spring

### KENNEBEC

Paul A. Jones, Jr., M.D., 2 School Street, Waterville  
George R. Landwehr, M.D., 111 Water Street, Augusta  
Joseph F. Stocks, 67 Silver Street, Waterville

### PENOBSCOT

Rudolf E. Eyerer, M.D., 489 State Street, Bangor

### YORK

George A. Lord, M.D., 34 Winter Street, Sanford  
G. Patrick Shaw, M.D., 357 Elm Street, Biddeford

## Deceased

### CUMBERLAND

Roland B. Moore, M.D., 4917 Erie Street, Annandale, Virginia,  
November 10, 1961



# News, Notes and Announcements

## Maine Heart Association Officers



Officers of the Maine Heart Association elected at the 12th Annual Meeting held at the Veterans Administration Center, Togus, on November 19. Left to right: John W. Smith, Jr., Portland, Treasurer; Dr. Howard Bowen, Hallowell, Secretary; Dr. Robert L. Ohler, E. Winthrop, President; Dr. Emerson H. Drake, Portland, 2nd Vice-President and Dr. Wilbur B. Manter, Bangor, 1st Vice-President.

## Huddilston Medal Awarded To Maine Dentist



DR. ARTHUR W. EASTON

Dr. Arthur W. Easton of Norway, a practicing dentist for the past 46 years, was awarded the Roselle W. Huddilston Medal for the year 1961 at the annual meeting of the Maine Tuberculosis and Health Association on September 12, 1961.

## Symposium On Infertility

New York University Medical Center in conjunction with the American Society for the study of sterility will present a symposium on infertility on February 8-9-10, 1962. This symposium is planned for urologists, gynecologists, endocrinologists, internists, and others who are interested in the problems of infertility. Approximately one-third of the program will be devoted to the problems in the male, one-third to the female, and one-third to the couple.

The tuition will be \$75.00. A detailed program and application may be obtained from the office of the Associate Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16, New York.

## Refresher Course In Gastroenterology

### To Be Presented At

### Central Maine General Hospital, Lewiston, Maine

The Central Maine General Hospital in Lewiston, Maine will offer a refresher course in "Gastroenterology" conducted by the Section of Gastroenterology of the Lahey Clinic, Boston, Massachusetts beginning Wednesday, February 7, 1962 and continuing each Wednesday afternoon through March 14, 1962.

Speakers and subjects are as follows:

- Feb. 7, 1962 — Elmer W. Heffernon, M.D.  
Functional Disorders of the Gastrointestinal Tract
- Feb. 14, 1962 — Everett D. Kiefer, M.D.  
Inflammatory Lesions of the Gastrointestinal Tract
- Feb. 21, 1962 — John R. Ross, M.D.  
Neoplasms of the Gastrointestinal Tract and Discussion of Malabsorption
- Feb. 28, 1962 — Frances H. Smith, M.D.  
Peptic Ulcer and Hiatus Hernia
- Mar. 7, 1962 — Francis E. McDonough, M.D.  
Diseases of the Pancreas
- Mar. 14, 1962 — F. Warren Nugent, M.D.  
Biliary Tract Disease

The lectures will be presented each Wednesday afternoon from 3:00 to 4:00. The registration fee is \$30.00 payable to the Central Maine General Hospital, and a certification for 12 hours of postgraduate medical education will be given to each physician on completion of the course.

## W. B. SAUNDERS COMPANY

features the following recent books in their full page advertisement appearing elsewhere in this issue:

**GRAHAM, SOTTO AND PALOUCHEK — CANCER OF THE CERVIX**  
full and authoritative coverage of the diagnosis and management of cervical cancer — from Roswell Park Memorial Institute

**HOGAN AND ZIMMERMAN — OPHTHALMIC PATHOLOGY**  
an atlas and textbook on diagnosis of diseases of the eye and on the pathology of involved tissue

**OWEN — HOSPITAL ADMINISTRATION**  
covers every aspect in the construction, organization and administration of today's hospitals

COUNCIL MEETING — *Continued from Page 371*

film can be reserved by writing to the Motion Picture Library, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

- (d) **Medical School for Maine** — Dr. Hanley stated that a study group from the Association of American Medical Colleges and the A.M.A. is meeting in Orono on October 23-24 and that members of the Council are invited to attend.
4. **Mode of Operation of Council.**  
Appointed to date:
- 1st District — Robinson L. Bidwell, M.D., Portland
  - 3rd District — John F. Andrews, M.D., Boothbay Harbor
  - 4th District — Earle M. Davis, M.D., Waterville
5. Appointment of committees as instructed by House of Delegates in June:
- (a) **Medicine and Optometry**  
Richard H. Dennis, M.D., Waterville — Chairman  
Dexter J. Clough, 2nd, M.D., Bangor  
Francis M. Dooley, M.D., Portland

(b) **Social Security**

Charles D. McEvoy, Jr., M.D., Bangor — Chairman  
George J. Robertson, M.D., Waterville  
Roger J. P. Robert, M.D., Saco

6. Appointment of **Budget Committee** to draw up proposed budget for 1963.  
John F. Dougherty, M.D., Bath  
Thomas A. Martin, M.D., Portland  
Charles W. Eastman, M.D., Livermore Falls  
(A preliminary meeting of this committee will be held at M.M.A. headquarters on Wednesday, November 29 at 3:00 P.M.)
7. Interim meeting of the House of Delegates — It was voted that this meeting be held — Sunday, April 8, 1962 at The Stowe House, Brunswick, Maine — Dinner at 1:00 P.M. — Business Meeting at 2:00 P.M.
8. Other Business — Dr. Richards re: Health Council of Maine plans to discuss Teaching Health in Schools. Delegates to the Health Council:  
Ernest W. Stein, M.D., Pittsfield  
Brinton T. Darlington, M.D., Augusta.
9. Adjourned 12:40 P.M.

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of the

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June, 1961

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 Harrison, George J. Market Square, Houlton  
 Harvey, Thomas G. 46 So. Main St., Caribou  
 Hayward, I. Mead So. Main St., Caribou  
 Helfrich, Harry M., Jr. 122 Academy St., Presque Isle  
 Higgins, George F. 122 Academy St., Presque Isle  
 Hogan, Chester F. 62 Main St., Houlton  
 Johnson, Gordon N. P. O. Box 86, Houlton  
 Johnson, R. Paul Main St., Fort Kent  
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 Smith, Carroll H.  
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 Frenchville  
 Houlton  
 Main St., Ashland  
 77 Main St., Fort Kent  
 20 Sweden St., Caribou  
 3 Green St., Fort Fairfield  
 Cary Mem. Hosp., Caribou  
 Maine St., Limestone  
 E. Presque Isle Rd., Caribou  
 Garden Circle, Caribou  
 29 Second St., Presque Isle  
 3 Green St., Fort Fairfield  
 Box 967, Presque Isle  
 Box 967, Presque Isle  
 45 Hillside St., Presque Isle  
 Mars Hill  
 10 High St., Fort Kent  
 18 Sherman St., Island Falls  
 P. O. Box 9, Fort Kent  
 So. Main St., Caribou  
 So. Main St., Caribou  
 72 Main St., Houlton  
 40 Court St., Houlton  
 Arthur R. Gould Mem. Hosp.,  
 Presque Isle

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 Osborne, John R. Veterans Adm., Togus  
 Savage, Richard L. 4 Elm St., Fort Kent

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 Asherman, Edward G. 131 Chadwick St., Portland  
 Bacastow, Merle S. 22 Bramhall St., Portland  
 Bachrach, Louis 16 Union St., Brunswick  
 Baldini, Elio 22 Bramhall St., Portland  
 Baldwin, Warren C. 42 Deering St., Portland  
 Barnes, Kirk K. 11 McKeen St., Brunswick  
 Bennet, Eben T. 49 Deering St., Portland  
 Bergmann, Jerome W. 255 Western Prom., Portland  
 Bettle, Ronald A. 32 Federal St., Brunswick  
 Bidwell, Robinson L. 31 Bramhall St., Portland  
 Bischoffberger, John M. Naples  
 Bisgrove, John G. 165 Park Row, Brunswick  
 Bishop, Lloyd W. 211 Vaughan St., Portland  
 Blaisdell, Elton R. 12 Deering St., Portland  
 Blumberg, Edward Box C, Pownal  
 Bonney, James H. 229 Vaughan St., Portland  
 Bove, Louis G. 12 Deering St., Portland  
 Bowman, Anneliese M. Maine Medical Ctr., Portland  
 Bowman, Peter W. Box C, Pownal  
 Branson, Sidney R. 37 Main St., So. Windham  
 Broggi, Frank S. 18 Neal St., Portland  
 Brown, Douglas H. 548 Shore Rd., Cape Elizabeth  
 Burnett, Claude A., Jr. 59 Deering St., Portland  
 Burns, Robert M. 582 Main St., Westbrook  
 Burrage, William C. 57 Deering St., Portland  
 Capron, Charles W. 22 Bramhall St., Portland  
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 Chase, George O. 144 State St., Portland  
 Chatterjee, Manu 11 McKeen St., Brunswick  
 Christensen, Harry E. So. Freeport  
 Ciampi, Louis A. Gray  
 Clark, Frederick B. 131 State St., Portland  
 Clarkin, Charles P. 64 Brookside Rd., Portland  
 Cole, Donald P. 45 Deering St., Portland  
 Crane, Lawrence 157 Pine St., Portland  
 Cummings, George O. 47 Deering St., Portland  
 Cummings, George O., Jr. 47 Deering St., Portland  
 D'Andrea, Anthony L. 868 Broadway, So. Portland  
 Daniels, Donald H. R.R. No. 1, Readfield  
 Davidson, David 235 State St., Portland  
 Davidson, Gisela K. 235 State St., Portland  
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 Derry, G. Hermann 690 Congress St., Portland  
 Dionne, Maurice J. 26-28 Cumberland St., Brunswick  
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 Dore, Kenneth E. 133 Main St., Fryeburg  
 Dorogi, Louis V. 149 Main St., Freeport  
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 Earnhardt, Joseph B. 55 Stroudwater St., Westbrook  
 Eppinger, Ernst 52 Belmont St., Portland  
 Fagone, Francis A. 312 Congress St., Portland  
 Ferguson, Franklin F. 22 Bramhall St., Portland  
 Finks, Henry B. 73 Deering St., Portland  
 Fish, Nicholas 235 State St., Portland  
 Fogg, Philip S., Jr. 173 Pleasant Ave., Portland  
 Fox, Francis H. 83 West St., Portland  
 Freeman, William E. 107 Main St., Yarmouth  
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 Geer, Charles R. 690 Congress St., Portland  
 Geer, George I., Jr. 690 Congress St., Portland  
 Getchell, Ralph A. 690 Congress St., Portland  
 Geyerhahn, George 73 Deering St., Portland  
 Gibbons, John F. 22 Bramhall St., Portland  
 Glassmire, Charles R. 58 Deering St., Portland  
 Goduti, Richard J. 9 Deering St., Portland  
 Good, Philip G. 38 Deering St., Portland  
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 Hallett, George W., Jr. 131 State St., Portland  
 Hanley, Daniel F. 58 Federal St., Brunswick  
 Hanson, Henry W., Jr. Cumberland Ctr.  
 Hawkes, Richard S. 47 Deering St., Portland  
 Hecht, Henry 326 Stevens Ave., Portland  
 Heifetz, Ralph 173 State St., Portland  
 Herrick, Stanley E., Jr. 12 Deering St., Portland  
 Hill, Douglas R. 855 Sawyer St., So. Portland  
 Hinckley, Harris 331 Cottage Rd., So. Portland  
 Holt, C. Lawrence 27 Deering St., Portland  
 Hudson, Henry A. 11 Gage St., Bridgton  
 Huntress, Roderick L. 988 Sawyer St., So. Portland  
 Ives, Howard R. 31 Deering St., Portland  
 Jacobson, Payson B. 295 Brighton Ave., Portland  
 Johnson, Albert C. 131 Chadwick St., Portland  
 Johnson, Oscar R. 18 Deering St., Portland  
 Kent, Stanley W. 42 Deering St., Portland  
 Knowles, Robert M. 49 Deering St., Portland  
 Lape, C. Philip 131 Chadwick St., Portland  
 Lappin, John J. 171 State St., Portland  
 Laughlin, K. Alexander 201 State St., Portland  
 Leary, Gerald C. 144 State St., Portland  
 Leighton, Wilbur F. 192 State St., Portland  
 Leiter, Laban W. 175 Vaughan St., Portland  
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 Love, Robert B. 97 Main St., Gorham  
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121 Main St., Ellsworth  
50 Union St., Ellsworth  
Blue Hill  
Southwest Harbor  
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14 High St., Ellsworth  
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15 High St., Bar Harbor  
Water St., Blue Hill  
48 Mt. Desert St., Bar Harbor  
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Eastern Mem. Hosp., Ellsworth  
Penobscot  
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194 Main St., Bar Harbor  
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Dunn, Robert H. Veterans Adm., Togus  
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Fisher, Dean H. State House, Augusta

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Gingras, Adolphe J. 99 Water St., Augusta  
Gingras, Napoleon J. 6 E. Chestnut St., Augusta  
Goodof, Irving I. Thayer Hospital, Waterville  
Goodrich, Blynn O. 165 Main St., Waterville  
Gould, George I. 79 Main St., Richmond  
Guillemette, Maurice R. 109 Water St., Augusta  
Guite, L. Armand 45 Elm St., Waterville  
Harlow, Edwin W. 177 Main St., Waterville  
Herring, Leon D. Memorial Drive, Winthrop  
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McLaughlin, Ivan E. 345 Water St., Gardiner  
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O'Connor, Francis J. 4 Woodlawn St., Augusta  
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Provost, Pierre E. 48 Green St., Augusta  
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Robertson, George J. 33 College Ave., Waterville  
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Sanders, Stephen W. 120 Main St., Winthrop  
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Sleeper, Francis H. Box 724, State Hosp., Augusta  
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Towne, Charles E. 18 Common St., Waterville  
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Heath, Parker, Jr. 22 White St., Rockland  
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Jones, Paul A. Union  
Kibbe, Frank W. 22 White St., Rockland  
King, Merrill J. 22 White St., Rockland  
King, Merrill J., Jr. 22 White St., Rockland  
Lawry, Oram R., Jr. 96 Limerock St., Rockland  
Mann, David V. 22 White St., Rockland  
McLellan, William A. 87 Chestnut St., Camden  
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Winter address — Aripeka, Florida  
Platt, Anna Beauchamp Rd., Rockport  
Winter — 110 Manatee Rd., Belleair, Clearwater, Fla.

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Waterman, Dorothy Waldoboro

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Bostwick, George W. Rt. 1, River St., Newcastle  
Clark, Richard I. 858 Washington St., Bath

Doble, Miriam 990 Washington St., Bath  
Dougherty, John F. 112 Front St., Bath  
Gregory, Philip O. St. Andrews Hosp., Boothbay Harbor  
Hamilton, Virginia C. 900 Washington St., Bath  
Hutchins, Deane L. 69 Townsend Ave., Boothbay Harbor  
Kinder, Edward L., Jr. 1027 Washington St., Bath  
Lenfest, Stanley R. Waldoboro  
Nichols, Arthur A. Edgecomb  
Powell, Ralph C. Damariscotta  
Proctor, Thomas E. Boothbay Harbor  
Smith, Jacob 118 Front St., Bath  
Smith, Joseph I. 118 Front St., Bath  
Tracy, Mary J. Bristol St., Damariscotta  
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Day, DeForest S. Wiscasset  
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Morin, Harry F. (Retired) 905 Middle St., Bath  
Stetson, Rufus E. Damariscotta

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*Secretary-Treasurer* — Albert P. Royal, Jr., M.D.

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Aucoin, Peter B. 87 Congress St., Rumford  
Bean, H. Richard 171 Main St., Norway  
Defoe, Garfield G. Dixfield  
Dixon, Walter G. 16 Deering St., Norway  
Elsmore, Dexter E. 11 Main St., Dixfield  
Grish, Albert J. 18 Hartford St., Rumford  
Harper, Harry L. 17 Main St., So. Paris  
Howard, Henry M. 105 Franklin St., Rumford  
Jackson, Norman M. 89 Congress St., Rumford  
McCormack, Roland L. 12 Bridge St., Norway  
Moore, Beryl M. Oxford  
Nangle, Thomas P. West Paris  
Oestrich, Alfred 89 Congress St., Rumford  
Rowe, Linwood M. 11 Franklin St., Rumford  
Royal, Albert P., Jr. 82 Maine Ave., Rumford  
Young, John Bethel

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Greene, John A. 96 Congress St., Rumford  
Pearson, Henry Brownfield  
Stewart, Delbert M. 15 Main St., So. Paris

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Kay, Edwin 31 Frye St., Lewiston  
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Mills, Nathaniel Harrison  
Nelson, Chesley W. 121 Main St., Norway  
Stanwood, Harold W. Dixfield

## JUNIOR MEMBERS

Broughton, David S. 1 Pin Oak Lane, Louisville, Ky  
Perkins, Niles L., Jr. 22 Bramhall St., Portland

## MILITARY SERVICE

Boynton, Willard H. USOM/H&S Div., Box 32, Navy 150,  
c/o FPO, San Francisco, California

## PENOBSCOT COUNTY

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*Secretary* — Philip B. Thomas, M.D.

*Treasurer* — Benjamin L. Shapero, M.D.

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 Adams, Winford C. 255 N. Main St., Brewer  
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 Babcock, Albert L. 316 State St., Bangor  
 Babcock, Edward B. 115 Wilson St., Brewer  
 Barrett, Robert Jr., Jr. Cor. Union & James Sts., Bangor  
 Barton, Michael 200 Somerset St., Millinocket  
 Blackburn, Nelson P. 489 State St., Bangor  
 Blaisdell, Carl E. 47 Broadway, Bangor  
 Blaisdell, William B., Jr. 47 Broadway, Bangor  
 Blinder, Philip 128 Broadway, Bangor  
 Bridges, Donald E. 209 State St., Bangor  
 Brod, James J. 51 Grove St., Bangor  
 Brown, Eugene E. 57 Summit Ave., Bangor  
 Brown, Lloyd 316 State St., Bangor  
 Burke, John E. 824 State St., Bangor  
 Burke, Paul W. 5 High St., Newport  
 Butler, Harry 77 Broadway, Bangor  
 Butterfield, Wilfred I. 119 Main St., Lincoln  
 Chason, Sidney 173 Pine St., Bangor  
 Clement, James D., Jr. 77 Essex St., Bangor  
 Clough, Dexter J., 2nd 224 State St., Bangor  
 Cornell, Robert C. 118 Forest Ave., Orono  
 Coulton, Donald 326 State St., Bangor  
 Cross, Harold D. Main Rd., Hampden Highlands  
 Curran, Edward L. 209 State St., Bangor  
 Cutler, Lawrence M. 31 Grove St., Bangor  
 Desjardins, Richard F. 240 Penobscot Ave., Millinocket  
 Dietrich, Mary M. P. O. Box 8, Orrington  
 Duffey, Richard V. 187 N. Main St., Brewer  
 Dunham, Rand A. P. O. Box 400, E. Millinocket  
 Dwyer, Clement S. 205 French St., Bangor  
 Emery, Frederick C. 242 Cedar St., Bangor  
 Feeley, J. Robert 316 State St., Bangor  
 Fergus, Andrew 128 Broadway, Bangor  
 Gaillard, Richard A. 276 State St., Bangor  
 Gilman, Herbert C. 240 Penobscot Ave., Millinocket  
 Graves, Robert A. Sunset Drive, Orono  
 Hall, Walter L. H. 130 Middle St., Old Town  
 Hamlin, Irving E. Main St., E. Millinocket  
 Hill, Allison K. 113 Somerset St., Bangor  
 Houlihan, John S. 209 State St., Bangor  
 Hughes, Edward J., Jr. 209 State St., Bangor  
 Irwin, Carl W. 262 State St., Bangor  
 Kadi, Francis J. Bangor State Hosp., Bangor  
 Kellogg, Robert O. 316 State St., Bangor  
 Leddy, Percy A. Main St., Seal Harbor  
 Lee, Kong Vets. Adm. Hospital, Northport, N. Y.  
 Lieberman, Arthur N. 180 Broadway, Bangor  
 Macdonald, Donald F. 263 State St., Bangor  
 Manter, Wilbur B. 1 Fern St., Bangor  
 Mason, Peter H. Millinocket Com. Hosp., Millinocket  
 McEvoy, Charles D., Jr. 316 State St., Bangor  
 McNamara, Wesley C. 8 Lee St., Lincoln  
 McQuoid, Robert M. 39 Columbia St., Bangor  
 Memmelaar, Joseph E. 54 Forest Ave., Bangor  
 Merrill, Urban H. 13 Water St., Newport  
 Miragliuolo, Leonard G. 10 Maple St., Bangor  
 Moulton, Gardner N. 5 Grove St., Bangor  
 Mnuce, Richard T. 262 State St., Bangor  
 Nesin, Bourcard 10 Water St., Howland  
 O'Kane, Francis R. 122 Penobscot Ave., Millinocket  
 Osler, Jay K. 74 Birch St., Bangor  
 Palmer, Thomas H., Jr. 316 State St., Bangor  
 Parrot, Hadley 74 Somerset St., Bangor  
 Pearson, John J. 100 S. Main St., Old Town  
 Pooler, Harold A. State Hospital, Bangor  
 Porter, Edward C. 489 State St., Bangor  
 Purinton, William A. 15 Ohio St., Bangor  
 Ridlon, Magnus F. 99 Broadway, Bangor  
 Ruhlin, Carl W. 205 French St., Bangor  
 Sewall, Elmer M. 14 Park St., Orono

Shapero, Benjamin L. 142 Pine St., Bangor  
 Shubert, Alice J. 317 State St., Bangor  
 Shubert, William M. 317 State St., Bangor  
 Shurman, Hans 10 Spring St., Dexter  
 Smith, Hugh A. Eastern Maine Gen. Hosp., Bangor  
 Striar, Ronald R. 94 Essex St., Bangor  
 Strout, Warren G. 205 French St., Bangor  
 Sullivan, John R. 340 No. Main St., Brewer  
 Taylor, H. Lewis 25 Church St., Dexter  
 Thomas, Philip B. 205 French St., Bangor  
 Todd, Albert C. 185 No. Main St., Brewer  
 Trowbridge, Mason, Jr. 142 Pine St., Bangor  
 Vickers, Martyn A. 268 State St., Bangor  
 Wadsworth, Richard C. 489 State St., Bangor  
 Wagner, Samuel L. 2 Holmes St., Winterport  
 Walker, George R. 128 Broadway, Bangor  
 Weisz, Hans 194 Main St., Lincoln  
 Whitney, Byron V. 280 State St., Bangor  
 Whitworth, John E. 116 Hammond St. Bangor  
 Wood, George W., III 156 No. Main St., Brewer  
 Woodcock, Allan 35 Second St., Bangor  
 Woodcock, John A. 35 Second St., Bangor

### HONORARY MEMBERS

Craig, Allan 28 Baraud Rd., Scarsdale, N. Y.  
 Devan, Thomas A. 10245-47th Ave., Corona, L. I., N. Y.  
 Hedin, Carl J. Penobscot Terrace, Brewer  
 Higgins, George I. 15 Water St., Newport  
 Purinton, Watson S. 15 Ohio St., Bangor

### SENIOR MEMBERS

Emerson, W. Merritt 131 State St., Bangor  
 McNeil, Harry D. 81 Silver Rd., Bangor  
 Scribner, Herbert C. 29 Summit Ave., Wakefield, Mass.  
 Weatherbee, George B. Main St., Hampden

### AFFILIATE MEMBERS

DeWitt, James C. 1313 Jefferson St., Cuyahoga Falls, Ohio  
 Knowlton, Henry C. 245 Center St., Bangor

### MILITARY SERVICE

Clough, Herbert T. (Col.) Hq. USAF (AFCSG 12),  
 Bldg. T-8, Washington 25, D.C.

## PISCATAQUIS COUNTY

*President* — Odd S. Nielsen, M.D.

*Secretary-Treasurer* — Isaac Nelson, M.D.

### ACTIVE MEMBERS

Bradbury, Francis W. 16 E. Main St., Dover-Foxcroft  
 Carde, Albert M. 33 Elm St., Milo  
 Curtis, John B. 10 High St., Milo  
 Howard, George C. Oak St., Guilford  
 Johnson, James H., Jr. 36 Elm St., Milo  
 Lightbody, Charles H. No. Main St., Guilford  
 Nelson, Isaac Box 336, Greenville  
 Nickerson, Norman H. Greenville  
 Nielsen, Odd S. 85 Pleasant St., Dexter  
 Stitham, Linus J. 50 Main St., Dover-Foxcroft  
 Stuart, Ralph C. Guilford

### HONORARY MEMBERS

MacDougal, Wilbur E. 186 Nowell Rd., Bangor  
 Pritham, Fred J. Greenville Jct.

### SENIOR MEMBERS

Bundy, Harvey C. Milo  
 Stanhope, Charles N. South St., Dover-Foxcroft



## SOMERSET COUNTY

*President* — Paul R. Briggs, M.D.

*Secretary-Treasurer* — Harland G. Turner, M.D.

### ACTIVE MEMBERS

Amrein, H. Carl	29 Weston Ave., Madison
Ball, Franklin P.	Bingham
Bernard, Albert J.	198 Madison Ave., Skowhegan
Briggs, Paul R.	Hartland
Greenlaw, William A.	129 Main St., Fairfield
Grow, William B.	Central Maine San., Fairfield
Hornstein, Louis S.	220 Water St., Skowhegan
Jordan, W. Edward, Jr.	68 Water St., Skowhegan
Kemezys, Kestutis M.	25 Garfield St., Madison
Laney, Richard P.	50 Water St., Skowhegan
Lord, Edwin M.	39 High St., Skowhegan
Philbrick, Maurice S.	292 Water St., Skowhegan
Reed, Howard L.	68 Water St., Skowhegan
Smith, Edgar J.	1 Park St., Fairfield
Smith, Henry F.	Jackman Station
Strickland, Marian L.	Easy St., Canaan
Sullivan, George E.	R.F.D. #1, Fairfield
Szenyi, Ernest	Central Maine San., Fairfield
Szendey, Andrew M.	26 Gray St., Madison
Turner, Harland G.	R.F.D. #2, Norridgewock

### HONORARY MEMBERS

Humphreys, Ernest D.	91 Main St., Pittsfield
Marston, Henry E.	No. Anson
Webber, Merlon A.	33 Lancey St., Pittsfield

### SENIOR MEMBER

Lord, Maurice E.	Dees Cabins, Lake Placid, Florida
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## WALDO COUNTY

*President* — Ward A. Albro, M.D.

*Secretary-Treasurer* — Seth H. Read, M.D.

### ACTIVE MEMBERS

Albro, Ward A.	27 Northport Ave., Belfast
Caswell, John A.	16 Waldo Ave., Belfast
Cobb, Norman E.	132 Main St., Belfast
Read, Seth H.	15 Church St., Belfast
Stein, Ernest W.	72 Main St., Pittsfield
Temple, George L.	Fahey S., Belfast
Torrey, Raymond L.	Main St., Searsport
Webber, John R.	Dark Harbor

### HONORARY MEMBER

Stevens, Carl H.	18 Franklin St., Belfast
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### SENIOR MEMBERS

Cunningham, Allan R.	11 Everett St., Winchester, Mass.
Small, Foster C.	169 High St., Belfast

## WASHINGTON COUNTY

*President* — Rowland B. French, M.D.

*Secretary-Treasurer* — Karl V. Larson, M.D.

### ACTIVE MEMBERS

Bates, James C.	Eastport
French, Rowland B.	16 Water St., Eastport
Jacob, Donald R.	Princeton
Kazutow, John	P. O. Box 24, Ellsworth
Kiel, Joseph B.	Columbia Falls
Larson, Karl V.	E. Machias
MacBride, Robert G.	25 Washington St., Lubec
McAllister, John W.	39 Water St., Lubec
Mitchell, Hazen C.	Calais
Mundie, Perley J.	32 North St., Calais
Sears, Harold G.	Second Ave., Woodland
Webber, Samuel R.	Calais

## SENIOR MEMBERS

Armstrong, Charles M.  
Bennet, DaCosta F.  
Southworth, John D.

Robbinston  
4 Main St., Lubec  
Hartland

## YORK COUNTY

*President* — Kenneth E. Leigh, M.D.

*Secretary-Treasurer* — Charles W. Kinghorn, M.D.

### ACTIVE MEMBERS

Anton, Thomas	260 Main St., Biddeford
Bacon, Melvin	122 Main St., Sanford
Belmont, Ralph S.	6 Washington St., Sanford
Berger, Steven	257 Elm St., Biddeford
Charest, Leandre R.	314 Alfred St., Biddeford
Cuneo, Kenneth J.	31 Summer St., Kennebunk
Dennett, Carl G.	258 Main St., Saco
Dionne, William E.	75 Main St., Springvale
Downing, J. Robert	35 Summer St., Kennebunk
Drummond, S. Dunton	Bar Mills
Endicott, Ruth E.	16 Main St., Ogunquit
Ficker, Robert F.	Maine St., Kennebunkport
Fortier, Andre P.	68 Foss St., Biddeford
Haas, Carl M.	357 Elm St., Biddeford
Hill, Paul S., Jr.	323 Main St., Saco
Hoffman, Alvin A.	P. O. Box 222, York
Hopkins, Herbert J.	24 Portland Ave., Old Orchard
Houle, Marcel P.	200 Alfred St., Biddeford
Jellerson, Leon R.	34 Winter St., Sanford
Johnston, James S.	York Harbor
LaFond, Robert S.	258 Main St., Saco
Lapirow, Harry	99 Main St., Kennebunk
Leigh, Kenneth E.	Brixham Rd., York
Lesieur, Louis C.	66 Beach St., Saco
Lincourt, Armand S.	122 Main St., Sanford
Magaudda, Michael M. P.	39 Old Orchard St., Old Orchard Beach
Magocsi, Alexander W.	York
Mahaney, William F.	338 Main St., Saco
Moulton, Marion K.	W. Newfield
Murphy, John J.	84 Portland St., So. Berwick
Myer, John C.	Nasson College, Springvale
O'Sullivan, William B.	331 Main St., Saco
Ouellette, Marcel D.	114 Main St., Sanford
Patane, Joseph M.	256 Alfred St., Biddeford
Perrault, Oscar W.	30 South St., Biddeford
Peterlein, Walter R., Jr.	75 Main St., Springvale
Richards, Carl E.	34 Winter St., Sanford
Robert, Roger J. P.	331 Main St., Saco
Ross, Maurice	372 Main St., Saco
Roussin, William T.	48 Bacon St., Biddeford
Smith, Gerald R.	Ogunquit
Smith, Oney P.	Post Rd., Wells
Taylor, Paul E.	9 Wentworth St., Kittery
Vachon, Robert D.	34 Winter St., Sanford
Viger, Leopold A.	176 Elm St., Biddeford
Wolfahrt, Eugene P.	338 Main St., Saco

### HONORARY MEMBERS

Bunker, Willard H.	York Harbor
Davis, Ansel S.	Springvale
Head, Owen B.	98 Main St., Sanford
Larochelle, Joseph R.	42 Bacon St., Biddeford
Sever, James W.	Cape Neddick
Whitney, Ray L.	Cape Porpoise

### SENIOR MEMBERS

Cobb, Stephen A.	34 Winter St., Sanford
Kinghorn, Charles W.	4 Wentworth St., Kittery
Ross, H. Danforth	34 Winter St., Sanford

### HONORARY MEMBER-AT-LARGE

Locke, Herbert E., Attorney	Augusta
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# An Alphabetical List of the Members of the Maine Medical Association

The figures in parentheses refer to County Societies as follows: (1) Androscoggin, (2) Aroostook, (3) Cumberland, (4) Franklin, (5) Hancock, (6) Kennebec, (7) Knox, (8) Lincoln-Sagadahoc, (9) Oxford, (10) Penobscot, (11) Piscataquis, (12) Somerset, (13) Waldo, (14) Washington, (15) York.

## A

Adams, Asa C., 68 Main St., Orono (10)  
 Adams, Lester, 9 Knox St., Thomaston (9)  
 Adams, Winford C., 255 North Main St., Brewer (10)  
 Agan, Robert W., 144 State St., Portland (3)  
 Akar, Hamdi, 17 Grove St., Bath (8)  
 Akerberg, Ake, 10 Maple St., South Paris (9)  
 Albert, Armand, 193 Main St., Van Buren (2)  
 Albert, Joseph L., 4 Pleasant St., Fort Kent (2)  
 Albro, Ward A., 27 Northport Ave., Belfast (13)  
 Allen, Donald E., Sebago Lake (3)  
 Ames, Forrest B., 255 Hammond St., Bangor (10)  
 Amrein, H. Carl, 29 Weston Ave., Madison (12)  
 Analis, Harry, 902 Brighton Ave., Portland (3)  
 Anderson, Donald L., 369 Main St., Lewiston (1)  
 Andrews, John F., 20 West St., Boothbay Harbor (8)  
 Ansell, Harvey B., 39 Deering St., Portland (3)  
 Anton, Thomas, 260 Main St., Biddeford (15)  
 Apollonio, Howard L., 22 White St., Rockland (7)  
 Applin, Hilton H., 6 Cumberland St., Brunswick (3)  
 Aranson, Albert, 39 Deering St., Portland (3)  
 Archambault, Philip L., 346 Main St., Lewiston (1)  
 Armstrong, Charles M., Robbinston (14)  
 Asali, Louis A., 29 Deering St., Portland (3)  
 Asherman, Edward G., 131 Chadwick St., Portland (3)  
 Ashley, Alta, Dist. III, Health Office, Augusta (6)  
 Aucoin, Peter B., 87 Congress St., Rumford (9)  
 Aungst, Melvin R., Morneault Building, Fort Kent (2)

## B

Babalian, Leon, 38 Deering St., Portland (3)  
 Babcock, Albert L., 316 State St., Bangor (10)  
 Babcock, Edward B., 115 Wilson St., Brewer (10)  
 Babcock, Harold S., Castine (5)  
 Bacastow, Merle S., 22 Bramhall St., Portland (3)  
 Bachrach, Louis, 16 Union St., Brunswick (3)  
 Bacon, Melvin, 122 Main St., Sanford (15)  
 Baldini, Elio, 22 Bramhall St., Portland (3)  
 Baldwin, Warren C., 42 Deering St., Portland (3)  
 Ball, Franklin P., Bingham (12)  
 Barker, Nathaniel B. T., 1 South St., Yarmouth (3)  
 Barnard, John M. H., 21 Western Ave., Augusta (6)  
 Barnes, Kirk K., 11 McKee St., Brunswick (3)  
 Barrett, Robert J., Jr., Cor. Union & James Sts., Bangor (10)  
 Barron, Richard E., Main St., Monmouth (6)  
 Barrows, Harris C., 5 Oak St., Boothbay Harbor (8)  
 Barry, Richard M., 50 Union St., Ellsworth (5)  
 Barton, Michael, 200 Somerset St., Millinocket (10)  
 Bates, James C., Eastport (14)  
 Bauman, Clair S., 159 Silver St., Waterville (6)  
 Bean, H. Richard, 171 Main St., Norway (9)  
 Beaudet, Simon C., 25 Webster St., Lewiston (1)  
 Beckerman, Stanley C., 82 Elm St., Waterville (6)  
 Beeaker, Vincent H., 85 Wood St., Lewiston (1)  
 Beegel, Paul M., 80 Goff St., Auburn (1)  
 Beliveau, Bertrand A., 56 Howe St., Lewiston (1)  
 Belknap, Samuel L., Damariscotta (8)  
 Belmont, Ralph S., 6 Washington St., Sanford (15)  
 Bennet, DaCosta F., 4 Main St., Lubec (14)  
 Bennet, Eben T., 49 Deering St., Portland (3)  
 Berger, Steven, 257 Elm St., Biddeford (15)  
 Bergmann, Jerome W., 255 Western Prom., Portland (3)  
 Bernard, Albert J., 198 Madison Ave., Skowhegan (12)  
 Bettle, Ronald A., 32 Federal St., Brunswick (3)  
 Betts, Anthony, 105 Morton St., Newton Ctr., Mass. (6)  
 Bidwell, Robinson L., 31 Bramhall St., Portland (3)  
 Bischoffberger, John M., Naples (3)  
 Bisgrove, John G., 165 Park Row, Brunswick (3)

Bishop, Lloyd W., 211 Vaughan St., Portland (3)  
 Black, Paul E., Capt. Naval Air Station, Brunswick (5)  
 Blackburn, Nelson P., 489 State St., Bangor (10)  
 Blaisdell, Carl E., 47 Broadway, Bangor (10)  
 Blaisdell, Elton R., 12 Deering St., Portland (3)  
 Blaisdell, William B., Jr., 47 Broadway, Bangor (10)  
 Blinder, Philip, 128 Broadway, Bangor (10)  
 Blumberg, Edward, Box C, Pownal (3)  
 Bolduc, Jean L., 173 Main St., Waterville (6)  
 Bonney, James H., 229 Vaughan St., Portland (3)  
 Boone, Storer W., 429 Main St., Presque Isle (2)  
 Bostwick, George W., Route 1, River St., Newcastle (8)  
 Bourassa, Harvey J., 15 Silver St., Waterville (6)  
 Bousquet, Jean J., Veterans Adm., Tupper Lake, N. Y. (1)  
 Bove, Louis G., 12 Deering St., Portland (3)  
 Bowman, Anneliese M., Maine Medical Center, Portland (3)  
 Bowman, Peter W., P. O. Box C, Pownal (3)  
 Bowne, Hays G., 9A Main St., Farmington (4)  
 Boynton, Willard H., USOM/H&S Div., Box 32, Navy 150, c/o FPO, San Francisco, California (9)  
 Bradbury, Francis W., 16 E. Main St., Dover-Foxcroft (11)  
 Bramhall, Theodore C., 185 Craigie St., Portland (3)  
 Winter address—3531 Mineola Dr., Sarasota, Fla.  
 Branch, Charles F., Central Maine Gen. Hosp., Lewiston (1)  
 Brann, Henry A., 31 Western Ave., Augusta (6)  
 Branson, Sidney R., 37 Main St., South Windham (3)  
 Breard, J. Alfred, 15 Summer St., Waterville (6)  
 Brennan, Thomas V., 99 Hardy St., Presque Isle (2)  
 Bridges, Donald E., 209 State St., Bangor (10)  
 Briggs, Paul R., Hartland (12)  
 Brien, Maurice, 76 Pine St., Lewiston (1)  
 Brinkman, Harry, 47 Perham St., Farmington (4)  
 Brod, James J., 51 Grove St., Bangor (10)  
 Broggi, Frank S., 18 Neal St., Portland (3)  
 Broughton, David S., 1 Pin Oak Lane, Louisville, Ky. (9)  
 Brouwer, Johan, 56 Talbot Ave., Rockland (7)  
 Brown, Douglas H., 548 Shore Rd., Cape Elizabeth (3)  
 Brown, Eugene E., 57 Summit Ave., Bangor (10)  
 Brown, Lloyd, 316 State St., Bangor (10)  
 Brown, Luther A., 13 Deering St., Portland (3)  
 Brown, Stephen S., Mars Hill (2)  
 Brownlow, Bradley E., Blue Hill Mem. Hosp., Blue Hill (5)  
 Buker, Edson B., R. F. D. No. 3, Auburn (1)  
 Bull, Frank B., 72 Church St., Gardiner (6)  
 Bundy, Harvey C., Milo (11)  
 Bunker, Willard H., York Harbor (15)  
 Burke, John E., 824 State St., Bangor (10)  
 Burke, Paul W., 5 High St., Newport (10)  
 Burnett, Claude A. Jr., 59 Deering St., Portland (3)  
 Burns, Robert M., 582 Main St., Westbrook (3)  
 Burr, Charles G., 90 Court St., Houlton (2)  
 Burrage, William C., 57 Deering St., Portland (3)  
 Busch, John J., 105 Elm St., Mechanic Falls (1)  
 Butler, Harry, 77 Broadway, Bangor (10)  
 Butterfield, Wilfred L., 119 Main St., Lincoln (10)

## C

Cameron, Dwight, Rockend Rd., Northeast Harbor (5)  
 Campbell, Fred G., Box 484, Warren (7)  
 Canal, Ory D., Augusta State Hospital, Augusta (6)  
 Capron, Charles W., 22 Bramhall St., Portland (3)  
 Carde, Albert M., 33 Elm St., Milo (11)  
 Carrier, John W., Central Maine Gen. Hosp., Lewiston (1)  
 Carson, Robert S., 11 McKee St., Brunswick (3)  
 Carter, Loren F., 33 1st Rangeway, Waterville (2)  
 Carton, Arthur K., Market Square, Houlton (2)  
 Casey, William L., 131 State St., Portland (3)  
 Castellanos, Jose, Augusta State Hosp., Augusta (6)  
 Caswell, John A., 16 Waldo Ave., Belfast (13)  
 Chapin, Milan A., 237 Turner St., Auburn (1)  
 Charest, Leandre R., 314 Alfred St., Biddeford (15)



Chase, George O., 144 State St., Portland (3)  
 Chase, Philip B., 36 Main St., Farmington (4)  
 Chason, Sidney, 173 Pine St., Bangor (10)  
 Chasse, Richard L., 173 Main St., Waterville (6)  
 Chatterjee, Manu, 11 McKen St., Brunswick (3)  
 Chen, Jen-Ti, 24 Glen Ave., Waterville (6)  
 Chenery, Frederick L. Jr., Monmouth (1)  
 Christensen, Harry E., South Freeport (3)  
 Ciampi, Louis A., Gray (3)  
 Clapp, Waldo A., 215 College St., Lewiston (1)  
 Clapperton, Gilbert, 300 Main St., Lewiston (1)  
 Clark, Frederick B., 131 State St., Portland (3)  
 Clark, Richard L., 858 Washington St., Bath (8)  
 Clarkin, Charles P., 64 Brookside Rd., Portland (3)  
 Clement, James D., Jr., 77 Essex St., Bangor (10)  
 Clough, Dexter J., 2nd, 224 State St., Bangor (10)  
 Clough, Herbert T., (Col.) Hq. USAF (AFCSG 12),  
 Bldg. T-8, Washington 25, D.C.  
 Cloutier, Wilfrid A., 210 Sabattus St., Lewiston (1)  
 Cobb, Norman E., 132 Main St., Belfast (13)  
 Cobb, Stephen A., 34 Winter St., Sanford (15)  
 Coffin, Ernest L., Northeast Harbor (5)  
 Coffin, Silas A., 39 High St., Bar Harbor (5)  
 Cole, Donald P., 45 Deering St., Portland (3)  
 Colley, Maynard B., Main St., Wilton (4)  
 Collins, H. Douglas, Caribou Clinic, Caribou (2)  
 Cook, Aaron, 23 High St., Waterville (6)  
 Cooper, Llewellyn W., 194 Main St., Bar Harbor (5)  
 Cornell, Robert C., 118 Forest Ave., Orono (10)  
 Coulton, Donald, 326 State St., Bangor (10)  
 Coussirat, Adolfo C., 74 Conant Ave., Auburn (1)  
 Covert, Stanley B., Kingfield (4)  
 Cox, William V., 133 Court St., Auburn (1)  
 Cragin, Charles L., 831 Congress St., Portland (3)  
 Craig, Allan, 28 Baraud Rd., Scarsdale, New York (10)  
 Crane, Lawrence, 157 Pine St., Portland (3)  
 Crawford, Albert S., Box 414, Togus (6)  
 Crawford, J. Ramser, 105 Water St., Augusta (6)  
 Crawford, Joseph R., 105 Water St., Augusta (6)  
 Cross, Harold D., Main Rd. & Summer St., Hampden High-  
 lands (10)  
 Crowe, James H., 121 Main St., Ellsworth (5)  
 Cummings, George O., 47 Deering St., Portland (3)  
 Cummings, George O., Jr., 47 Deering St., Portland (3)  
 Cuneo, Kenneth J., 31 Summer St., Kennebunk (15)  
 Cunningham, Allan R., 11 Everett St., Winchester, Mass. (13)  
 Curran, Edward L., 209 State St., Bangor (10)  
 Curtis, John B., 10 High St., Milo (11)  
 Cutler, Lawrence M., 31 Grove St., Bangor (10)

## D

Dachslager, Philip, 21 Western Ave., Augusta (6)  
 D'Andrea, Anthony L., 868 Broadway, So. Portland (3)  
 Daniels, Donald H., R.R. No. 1, Readfield (3)  
 Darlington, Brinton T., Westwood Rd., Augusta (6)  
 Davidson, David, 235 State St., Portland (3)  
 Davidson, Gisela K., 235 State St., Portland (3)  
 Davies, Lloyd G., Fryeburg (3)  
 Davis, Ansel S., Springvale (15)  
 Davis, Earle M., 2 School St., Waterville (6)  
 Davis, Harry E., 169 State St., Portland (3)  
 Day, DeForest S., Wiscasset (8)  
 Defoe, Garfield G., Dixfield (9)  
 De la Garza, Alexander, 111 Webster St., Lewiston (1)  
 Denison, John D., 105 Brunswick Ave., Gardiner (6)  
 Dennett, Carl G., 258 Main St., Saco (15)  
 Dennis, Richard H., 33 College Ave., Waterville (6)  
 Dennison, Frederick C., 52 Main St., Thomaston (7)  
 Denniston, Joseph C., Miners Mem. Hosp., Hazard, Ky. (3)  
 Derry, G. Hermann, 690 Congress St., Portland (3)  
 Desjardins, Arthur U., South Bristol (8)  
 Desjardins, Richard F., 240 Penobscot Ave., Millinocket (10)  
 Devan, Thomas A., 10245-47th Ave., Corona, L. I., N. Y. (10)  
 DeWitt, James C., 1313 Jefferson St., Cuyahoga Falls, Ohio (10)  
 Dietrich, Mary M., P. O. Box 8, Orrington (10)  
 Dionne, Maurice J., 26-28 Cumberland St., Brunswick (3)  
 Dionne, William E., 75 Main St., Springvale (15)  
 Dixon, Walter G., 16 Deering St., Norway (9)

Doble, Miriam, 990 Washington St., Bath (8)  
 Doby, Tibor, 131 State St., Portland (3)  
 Dolan, Thomas F., Jr., 50 Union St., Ellsworth (5)  
 Donahue, Clement L., 18 Sweden St., Caribou (2)  
 Donahue, Gerald H., 4 Station St., Presque Isle (2)  
 Dooley, Francis M., 53 Deering St., Portland (3)  
 Dore, Clarence E., 2 School St., Waterville (6)  
 Dore, Kenneth E., 133 Main St., Fryeburg (3)  
 Dorogi, Louis V., 149 Main St., Freeport (3)  
 Dougherty, John F., 112 Front St., Bath (8)  
 Douphinett, Otis J., 763 Congress St., Portland (3)  
 Downing, J. Robert, 35 Summer St., Kennebunk (15)  
 Drake, Emerson H., 18 Bramhall St., Portland (3)  
 Drexler, James E., Ward Town Rd., Freeport (3)  
 Drummond, S. Dunton, Bar Mills (15)  
 Duffey, Richard V., 187 North Main St., Brewer (10)  
 Duffy, Wallace H., 100 Main St., Farmington (4)  
 DuMais, Alcide F., Box 1595, Jamestown, North Dakota (1)  
 Dunham, Carl E., 188 State St., Portland (3)  
 Dunham, Marguerite C., No. Maine San., Presque Isle (2)  
 Dunham, Rand A., P. O. Box 400, East Millinocket (10)  
 Dunn, Robert H., Veterans Administration, Togus (6)  
 Dwyer, Clement S., 205 French St., Bangor (10)  
 Dycio, George, 55 Broad St., Auburn (1)  
 Dycio, Mary T., 3 Bayberry Lane, Lewiston (1)  
 Dyhrberg, Norman E., 323 Main St., Cumberland Mills (3)

## E

Earle, Ralph P., Vinalhaven (7)  
 Earnhardt, Joseph B., 55 Stroudwater St., Westbrook (3)  
 Eastman, Charles W., 15 Millet St., Livermore Falls (4)  
 Eddy, Robert H., 23A Summer St., Rockland (7)  
 Elmore, Dexter E., 11 Main St., Dixfield (9)  
 Emanuel, Meyer, Veterans Administration, Togus (6)  
 Emerson, W. Merritt, 131 State St., Bangor (10)  
 Emery, Frederick C., 242 Cedar St., Bangor (10)  
 Endicott, Ruth E., 16 Main St., Ogunquit (15)  
 English, Lena M., Veterans Administration, Togus (6)  
 Eppinger, Ernst, 52 Belmont St., Portland (3)  
 Ervin, Edmund N., 2 School St., Waterville (6)  
 Etscovitz, Eli A., Cary Memorial Hospital, Caribou (2)

## F

Fagone, Francis A., 312 Congress St., Portland (3)  
 Faucher, Francois J., Grand Isle (2)  
 Feeley, J. Robert, 316 State St., Bangor (10)  
 Fergus, Andrew, 128 Broadway, Bangor (10)  
 Ferguson, Barbara, 80 Goff St., Auburn (1)  
 Ferguson, Franklin F., 22 Bramhall St., Portland (3)  
 Fichtner, Paul A., 6 Pleasant St., Rangeley (4)  
 Ficker, Robert F., Maine St., Kennebunkport (15)  
 Finks, Henry B., 73 Deering St., Portland (3)  
 Fiorica, Gaetano T., 12 Church St., Chisholm (4)  
 Fish, Nicholas, 235 State St., Portland (3)  
 Fisher, Dean H., State House, Augusta (6)  
 Fisher, Samson, 173 Main St., Waterville (6)  
 Fishman, Louis N., 327 Main St., Lewiston (1)  
 Flanders, Merton N., 1 High St., Lewiston (1)  
 Floyd, Paul E., 2 Middle St., Farmington (4)  
 Fogg, C. Eugene, 35 Deering St., Portland (3)  
 Fogg, Philip S., Jr., 173 Pleasant Ave., Portland (3)  
 Fortier, Andre P., 68 Foss St., Biddeford (15)  
 Fortier, Paul J., 111 Webster St., Lewiston (1)  
 Foster, Thomas A., 131 State St., Portland (3)  
 Fox, Francis H., 83 West St., Portland (3)  
 Freeman, William E., 107 Main St., Yarmouth (3)  
 French, Rowland B., 16 Water St., Eastport (14)  
 Frenette, Francis F., 26 Main St., Washburn (2)  
 Frost, Harold M., Friendship (7)  
 Frost, Robert A., 93 Summer St., Auburn (1)  
 Fuller, Barbara L., 20 Chestnut St., Rockland (7)

## G

Gaillard, Richard A., 276 State St., Bangor (10)  
 Galen, Robert S., 131 State St., Portland (3)

Gates, Clifford W., Flaggy Meadow Rd., Gorham (3)  
 Gauvreau, Horace L., 82 Pine St., Lewiston (1)  
 Gauvreau, Norman O., 78 Pine St., Lewiston (1)  
 Geer, Charles R., 690 Congress St., Portland (3)  
 Geer, George I., Jr., 690 Congress St., Portland (3)  
 Getchell, Ralph A., 690 Congress St., Portland (3)  
 Geyerhahn, George, 73 Deering St., Portland (3)  
 Gibbons, John F., 22 Bramhall St., Portland (3)  
 Gibson, Raymond G., 555 Main St., Presque Isle (2)  
 Giddings, Lane, 6 E. Chestnut St., Augusta (6)  
 Giddings, Paul D., 31 Western Ave., Augusta (6)  
 Giesen, Joseph H., 34 Gilman St., Waterville (6)  
 Giguere, Eustache N., 90 Webster St., Lewiston (1)  
 Gilman, Herbert C., 240 Penobscot Ave., Millinocket (10)  
 Gingras, Adolphe J., 99 Water St., Augusta (6)  
 Gingras, Napoleon J., 6 East Chestnut St., Augusta (6)  
 Glassmire, Charles R., 58 Deering St., Portland (3)  
 Goduti, Richard J., 9 Deering St., Portland (3)  
 Goldman, Morris E., 524 Main St., Lewiston (1)  
 Good, Philip G., 38 Deering St., Portland (3)  
 Goodof, Irving I., Thayer Hospital, Waterville (6)  
 Goodrich, Blynn O., 165 Main St., Waterville (6)  
 Goodwin, Ralph A., 56 Denison St., Auburn (1)  
 Goodwin, Ralph A., Jr., 48 Grandview Ave., Auburn (1)  
 Gormley, Eugene G., Market Square, Houlton (2)  
 Gould, George I., 79 Main St., Richmond (6)  
 Graves, Robert A., Sunset Drive, Orono (10)  
 Gray, Philip L., Blue Hill (5)  
 Greco, Edward A., 12 Pine St., Portland (3)  
 Green, Ross W., 33 Court St., Auburn (1)  
 Greene, John A., 96 Congress St., Rumford (9)  
 Greene, John P., 19 Sabattus St., Lewiston (1)  
 Greene, Merrill S. F., 466 Main St., Lewiston (1)  
 Greenlaw, William A., 129 Main St., Fairfield (12)  
 Gregory, Frederick J., 16 High St., Caribou (2)  
 Gregory, Philip O., St. Andrews Hosp., Boothbay Harbor (8)  
 Griffiths, Eugene B., 429 Main St., Presque Isle (2)  
 Grish, Albert J., 18 Hartford St., Rumford (9)  
 Grow, William B., Central Maine Sanitorium, Fairfield (12)  
 Guillemette, Maurice R., 109 Water St., Augusta (6)  
 Guite, L. Armand, 45 Elm St., Waterville (6)

## H

Haas, Carl M., 357 Elm St., Biddeford (15)  
 Haas, Rudolph, 480 Main St., Lewiston (1)  
 Hall, Walter D., 407 Main St., Rockland (7)  
 Hall, Walter L. H., 130 Middle St., Old Town (10)  
 Hallett, George W., Jr., 131 State St., Portland (3)  
 Hamel, John R., 50 Deering St., Portland (3)  
 Hamilton, Virginia C., 900 Washington St., Bath (8)  
 Hamlin, Irvin E., Main St., East Millinocket (10)  
 Hanley, Daniel F., 58 Federal St., Brunswick (3)  
 Hannigan, Charles A., 85 Goff St., Auburn (1)  
 Hannigan, Margaret H., 85 Goff St., Auburn (1)  
 Hanson, Henry W., Jr., Cumberland Center (3)  
 Harkins, Michael J., 437 Main St., Lewiston (1)  
 Harlow, Edwin W., 177 Main St., Waterville (6)  
 Harper, Harry L., 17 Main St., South Paris (9)  
 Harrison, George J., Market Sq., Houlton (2)  
 Hartman, J. B. Leith, Southwest Harbor (5)  
 Harvey, Thomas G., 46 So. Main St., Caribou (2)  
 Hawkes, Richard S., 47 Deering St., Portland (3)  
 Hawkins, Donald B., Atlantic Ave. and Sea St., Camden (7)  
 Hayward, I. Mead, So. Main St., Caribou (2)  
 Head, Owen B., 98 Main St., Sanford (15)  
 Heath, Parker, Jr., 22 White St., Rockland (7)  
 Hecht, Henry, 326 Stevens Ave., Portland (3)  
 Hedin, Carl J., Penobscot Terrace, Brewer (10)  
 Heifetz, Ralph, 173 State St., Portland (3)  
 Helfrich, Harry M., Jr., 122 Academy St., Presque Isle (2)  
 Helfrich, Nancy R., 555 Main St., Presque Isle (2)  
 Herbert, Walter W., Eastern Mem. Hosp., Ellsworth (5)  
 Herrick, Stanley E., Jr., 12 Deering St., Portland (3)  
 Herring, Leon D., Memorial Dr., Winthrop (6)  
 Herson, Joseph H., 334 E. 25th St., New York, N. Y. (2)  
 Hiebert, Joelle C., Jr., 369 Main St., Lewiston (1)  
 Higgins, Everett C., 149 College St., Lewiston (1)  
 Higgins, George F., 122 Academy St., Presque Isle (2)  
 Higgins, George I., 15 Water St., Newport (10)

Hill, Allison K., 113 Somerset St., Bangor (10)  
 Hill, Douglas R., 855 Sawyer St., South Portland (3)  
 Hill, Frederick T., Thayer Hospital, Waterville (6)  
 Hill, Howard F., 33 College Ave., Waterville (6)  
 Hill, Paul S., Jr., 323 Main St., Saco (15)  
 Hinkley, Harris, 331 Cottage Rd., South Portland (3)  
 Hirschberger, Celia, 44 Main St., Waterville (6)  
 Hirshler, Max, 25 Bardwell St., Lewiston (1)  
 Hochschild, Hugo, 33 Main St., Thomaston (7)  
 Hoffman, Alvin A., P. O. Box 222, York (15)  
 Hogan, Chester F., 62 Main St., Houlton (2)  
 Holt, C. Lawrence, 27 Deering St., Portland (3)  
 Hopkins, Herbert J., 24 Portland Ave., Old Orchard (15)  
 Hopping, John S., R. D. No. 2, Union (7)  
 Hornberger, H. Richard, 2 School St., Waterville (6)  
 Hornstein, Louis S., 220 Water St., Skowhegan (12)  
 Horsman, Donald H., 50 Goff St., Auburn (1)  
 Houle, Marcel P., 200 Alfred St., Biddeford (15)  
 Houlihan, John S., 209 State St., Bangor (10)  
 Howard, George C., Oak St., Guilford (11)  
 Howard, Henry M., 105 Franklin St., Rumford (9)  
 Hsu, Theodore S., 14 High St., Ellsworth (5)  
 Hubbard, Roswell E., Waterford (9)  
 Hudson, Henry A., 11 Gage St., Bridgton (3)  
 Hughes, Edward J. Jr., 209 State St., Bangor (10)  
 Humphreys, Ernest D., 91 Main St., Pittsfield (12)  
 Huntress, Roderick L., 988 Sawyer St., South Portland (3)  
 Hurd, Allan C., 72 Church St., Gardiner (6)  
 Hutchins, Deane L., 69 Townsend Ave., Boothbay Harbor (8)

## I

Irwin, Carl W., 262 State St., Bangor (10)  
 Ives, Howard R., 31 Deering St., Portland (3)

## J

Jackler, Jacob M., 14 Gilman St., Waterville (6)  
 Jackson, Norman M., 89 Congress St., Rumford (9)  
 Jacob, Donald R., Princeton (14)  
 Jacobson, Payson B., 295 Brighton Ave., Portland (3)  
 James, Chakmakis, 47 Howe St., Lewiston (1)  
 James, John A., 117 Goff St., Auburn (1)  
 Jameson, C. Harold, Medical Arts Building, Rockland (7)  
 Jelleison, Leon R., 34 Winter St., Sanford (15)  
 Jennings, Richard K., c/o F. H. Burbank, Monroe (5)  
 Johnson, Albert C., 131 Chadwick St., Portland (3)  
 Johnson, Gordon N., P. O. Box 86, Houlton (2)  
 Johnson, Henry P., 32 Deering St., Portland (3)  
 Johnson, James H., Jr., 36 Elm St., Milo (11)  
 Johnson, Oscar R., 18 Deering St., Portland (3)  
 Johnson, R. Paul, Main St., Fort Kent (2)  
 Johnston, James S., York Harbor (15)  
 Jones, Paul A., Union (7)  
 Joost, Arthur M., Jr., P. O. Box B, Bucksport (5)  
 Jordan, W. Edward, Jr., 68 Water St., Skowhegan (12)

## K

Kadi, Francis J., Bangor State Hospital, Bangor (10)  
 Kagan, Samuel H., 283 Water St., Augusta (6)  
 Kay, Edwin, 31 Frye St., Lewiston (9)  
 Kazutow, John, P. O. Box 24, Ellsworth (14)  
 Kellogg, Robert O., 316 State St., Bangor (10)  
 Kemezys, Kestutis M., 25 Garfield St., Madison (12)  
 Kent, Stanley W., 42 Deering St., Portland (3)  
 Kershner, Warren E., 57 Green St., Bath (8)  
 Kibbe, Frank W., 22 White St., Rockland (7)  
 Kiel, Joseph B., Columbia Falls (14)  
 Kimball, Herrick C., P. O. Box 372, Fort Fairfield (2)  
 Kinder, Edward L., Jr., 1027 Washington St., Bath (8)  
 King, Merrill J., 22 White St., Rockland (7)  
 King, Merrill J., Jr., 22 White St., Rockland (7)  
 Kinghorn, Charles W., 4 Wentworth St., Kittery (15)  
 Kirk, William V., Eagle Lake (2)  
 Knickerbocker, Charles H., 15 High St., Bar Harbor (5)  
 Knowles, Robert M., 49 Deering St., Portland (3)  
 Knowlton, Henry C., 245 Center St., Bangor (10)  
 Konecki, John T., St. Mary's Hospital, Lewiston (1)



Kramer, Henry F., Caribou Clinic, Caribou (2)  
Kretzing, Harold G., 331 Veranda St., Portland (3)

## L

Labbe, Onil B., Van Buren (2)  
LaFlamme, Paul J., 106 Russell St., Lewiston (1)  
LaFond, Robert S., 258 Main St., Saco (15)  
Lane, Russell M., Water St., Blue Hill (5)  
Laney, Richard P., 50 Water St., Skowhegan (12)  
Langer, Ella, State House, Augusta (6)  
Lansing, Peter F., Veterans Administration, Togus (6)  
Lape, C. Philip, 131 Chadwick St., Portland (3)  
Lapirow, Harry, 99 Main St., Kennebunk (15)  
Lappin, John J., 171 State St., Portland (3)  
Larochelle, Joseph R., 42 Bacon St., Biddeford (15)  
Larrabee, Charles F., 48 Mt. Desert St., Bar Harbor (5)  
Larson, Karl V., East Machias (14)  
Laughlin, K. Alexander, 201 State St., Portland (3)  
Lawry, Oram R., Jr., 96 Limerock St., Rockland (7)  
Leary, Gerald C., 144 State St., Portland (3)  
Leddy, Percy A., Main St., Seal Harbor (10)  
Lee, Kong, Veterans Adm. Hosp., Northport, New York (10)  
Leigh, Kenneth E., Brixham Rd., York (15)  
Leighton, Wilbur F., 192 State St., Portland (3)  
Leiter, Laban W., 175 Vaughan St., Portland (3)  
Lemaitre, Paul G., 268 Webster St., Lewiston (1)  
Lenfest, Stanley R., Waldoboro (8)  
Lepore, Anthony E., 72 Church St., Gardiner (6)  
Lesieur, Louis C., 66 Beach St., Saco (15)  
Levesque, Romeo J., Frenchville (2)  
Libby, Harold E., 310 Main St., Westbrook (3)  
Lichter, Horacio A., Central Maine Gen. Hosp., Lewiston (1)  
Lidstone, Frederick B., 117 Goff St., Auburn (1)  
Lieberman, Arthur N., 180 Broadway, Bangor (10)  
Lightbody, Charles H., No. Main St., Guilford (11)  
Lincoln, John R., 22 Bramhall St., Portland (3)  
Lincourt, Armand S., 122 Main St., Sanford (15)  
Loewenstein, George, Chebeague Island (7)  
Winter Address — Aripeka, Florida  
Logan, G. E. C., 131 State St., Portland (3)  
Lombard, Reginald T., 793 Main St., South Portland (3)  
Lord, Edwin M., 39 High St., Skowhegan (12)  
Lord, Maurice E., Dees Cabins, Lake Placid, Florida (12)  
Lorimer, Robert V., 148 State St., Portland (3)  
Love, Robert B., 97 Main St., Gorham (3)  
Lovely, David K., 46 Deering St., Portland (3)  
Luther, William C., 1422 Kilbourn St., Elkhart, Ind. (5)  
Lynn, Geraldine, 188 Russell St., Lewiston (1)

## M

MacBride, Robert G., 25 Washington St., Lubec (14)  
Macdonald, Donald F., 263 State St., Bangor (10)  
MacDougal, Wilbur E., 186 Nowell Rd., Bangor (11)  
MacDougall, James A., 303 Penobscot St., Rumford (9)  
Mack, Francis X., 144 State St., Portland (3)  
MacVane, William L., Jr., 211 State St., Portland (3)  
Madigan, John B., Houlton (2)  
Magaudda, Michael M. P., 39 Old Orchard St., Old Orchard Beach (15)  
Magocsi, Alexander W., York (15)  
Mahaney, William F., 338 Main St., Saco (15)  
Maier, Paul, 723 Congress St., Portland (3)  
Maltby, George L., 31 Bramhall St., Portland (3)  
Mann, David V., 22 White St., Rockland (7)  
Manol, Jack, 157 Pine St., Portland (3)  
Manter, Wilbur B., 1 Fern St., Bangor (10)  
Marquardt, Matthias, Box 724, State Hospital, Augusta (6)  
Marshall, Donald F., 142 High St., Portland (3)  
Marshall, Joseph A., 177 Main St., Waterville (6)  
Marshall, Richard A., 22 Bramhall St., Portland (3)  
Marsters, David W., Phillips (4)  
Marston, Henry E., North Anson (12)  
Marston, Paul C., Kezar Falls (3)  
Martel, Cyprien L., Jr., 355 Pine St., Lewiston (1)  
Martin, Joseph E., 23 Water St., Livermore Falls (4)  
Martin, Ralf, 131 Chadwick St., Portland (3)  
Martin, Thomas A., 157 Pine St., Portland (3)  
Mason, Peter H., Millinocket Com. Hosp., Millinocket (10)

Mathews, Hugh J., Jr., 345 Water St., Gardiner (6)  
Matthews, Edward C., 131 Chadwick St., Portland (3)  
Mautner, Hans V., 44 Lafayette St., Yarmouth (3)  
Mazzacane, Walter D., 144 State St., Portland (3)  
Mazzone, Giovanni, 487 Stevens Ave., Portland (3)  
Melendy, Oakley A., 21 Western Ave., Augusta (6)  
Melkis, Andrew, Box C, Pownal (3)  
Melnick, Jacob, 333 Congress St., Portland (3)  
Memmelaar, Joseph E., 54 Forest Ave., Bangor (10)  
Mendes, Joseph M., 5 School St., Lisbon Falls (1)  
Merrill, Urban H., 13 Water St., Newport (10)  
Methot, Frank P., 54 Pine St., Lewiston (1)  
Michaud, Joseph C., 76 Main St., Waterville (6)  
Milazzo, John, 42 Elm St., Auburn (1)  
Miller, Clark F., 46 Madison St., Auburn (1)  
Miller, Hudson R., 11 Turner St., Auburn (1)  
Miller, Thor, 752 Main St., Westbrook (3)  
Milliken, Howard H., 105 Second St., Hallowell (6)  
Millington, Paul A., 44 Mountain St., Camden (7)  
Mills, Nathaniel, Harrison (9)  
Miragliuolo, Leonard G., 10 Maple St., Bangor (10)  
Mitchell, Hazen C., Calais (14)  
Mohlar, Robert G., 11 McKeen St., Brunswick (3)  
Monaghan, Stephen E., 157 Pine St., Portland (3)  
Monkhouse, William A., 131 State St., Portland (3)  
Moore, Beryl M., Oxford (9)  
Moore, Roland B., 112 Eastern Ave., Augusta (3)  
Moore, Valentine J., Thayer Hospital, Waterville (6)  
Morin, Harry F., 905 Middle St., Bath (8)  
Morissette, Russell A., 460 Main St., Lewiston (1)  
Morris, Craig W., 50 Bangor St., Augusta (6)  
Morrison, Alvin A., 57 Deering St., Portland (3)  
Morrison, James B., Main St., Ashland (2)  
Morse, Edward K., 22 White St., Rockland (7)  
Moulton, Albert W., 180 State St., Portland (3)  
Moulton, Albert W., Jr., 180 State St., Portland (3)  
Moulton, Gardner N., 5 Grove St., Bangor (10)  
Moulton, Marion K., West Newfield (15)  
Munce, Richard T., 262 State St., Bangor (10)  
Mundie, Perley J., 32 North St., Calais (14)  
Murphy, John J., 84 Portland St., South Berwick (15)  
Myer, John C., Nasson College, Springvale (15)

## Mc

McAdams, William R., 723 Congress St., Portland (3)  
McAllister, John W., 39 Water St., Lubec (14)  
McCann, Eugene C., 49 Deering St., Portland (3)  
McCormack, Roland L., 12 Bridge St., Norway (9)  
McCrum, Philip H., 188 State St., Portland (3)  
McEvoy, Charles D., Jr., 316 State St., Bangor (10)  
McFarland, Edward A., 159 Maine St., Brunswick (3)  
McIntire, Barron F., Jr., 13 W. Elm St., Yarmouth (3)  
McIntyre, John D., 50 Union St., Ellsworth (5)  
McKay, Roland L., 57 Eastern Ave., Augusta (6)  
McLaughlin, Clarence R., 345 Water St., Gardiner (6)  
McLaughlin, Ivan E., 345 Water St., Gardiner (6)  
McLean, E. Allan, 29 Deering St., Portland (3)  
McLellan, William A., 87 Chestnut St., Camden (7)  
McManamy, Eugene P., 209 State St., Portland (3)  
McMichael, Morton, 73 Deering St., Portland (3)  
McNamara, Wesley C., 8 Lee St., Lincoln (10)  
McNeil, Harry D., 81 Silver Rd., Bangor (10)  
McQuillan, Arthur H., 177 Main St., Waterville (6)  
McQuoid, Robert M., 39 Columbia St., Bangor (10)

## N

Nadeau, J. Paul, 91 Pine St., Lewiston (1)  
Nadeau, Lawrence A., Vet. Adm. Hosp., So. Huntington Ave., Jamaica Plains, Mass. (1)  
Namtze, Chan, Major, MC Ireland Army Hosp., Fort Knox, Kentucky (1)  
Nangle, Thomas P., West Paris (9)  
Nelson, Chesley W., 121 Main St., Norway (9)  
Nelson, Isaac, Box 336, Greenville (11)  
Nesin, Bourcard, 10 Water St., Howland (10)  
Newcomb, Charles H., Clinton (6)  
Nichols, Arthur A., Edgecomb (8)  
Nickerson, Norman H., Greenville (11)  
Nielsen, Odd S., 85 Pleasant St., Dexter (11)

## O

O'Connell, George B., 11 Lisbon St., Lewiston (1)  
 O'Connor, Francis J., 4 Woodlawn St., Augusta (6)  
 O'Donnell, Eugene E., 32 Deering St., Portland (3)  
 Oestrich, Alfred, 89 Congress St., Rumford (9)  
 Ohler, Robert L., Veterans Administration, Togus (6)  
 O'Kane, Francis R., 122 Penobscot Ave., Millinocket (10)  
 Olmsted, Burton L., 73 Deering St., Portland (3)  
 O'Meara, Edward S., Eastern Mem. Hosp., Ellsworth (5)  
 Onat, Mustafa V., St. George (7)  
 Orbeton, Everett A., 131 Chadwick St., Portland (3)  
 Osborne, John R., Veterans Adm., Togus (2)  
 Osher, Harold L., 131 Chadwick St., Portland (3)  
 Osler, Jay K., 74 Birch St., Bangor (10)  
 O'Sullivan, William B., 331 Main St., Saco (15)  
 Ottum, Alvin E., 148 State St., Portland (3)  
 Ouellette, Benoit, 77 Main St., Fort Kent (2)  
 Ouellette, Marcel D., 114 Main St., Sanford (15)

## P

Page, Rosario A., 20 Sweden St., Caribou (2)  
 Palmer, Thomas H., Jr., 316 State St., Bangor (10)  
 Papadopoulos, George, Conn. State Hosp., Middletown, Conn. (6)  
 Parcher, George, 75 Main St., Ellsworth (5)  
 Parrot, Hadley, 74 Somerset St., Bangor (10)  
 Patane, Joseph M., 256 Alfred St., Biddeford (15)  
 Patterson, James, 1 Bay Rd., South Portland (3)  
 Patton, Charles H., Jr., 11 McKen St., Brunswick (3)  
 Pawle, Robert H., 8 Walcott Ave., Falmouth (3)  
 Pearson, Henry, Brownfield (9)  
 Pearson, John J., 100 So. Main St., Old Town (10)  
 Pendleton, Arthur D., 3 Green St., Fort Fairfield (2)  
 Penmoyer, Douglass C., 112 Vaughan St., Portland (3)  
 Penta, Walter E., 316 Woodford St., Portland (3)  
 Perkins, Niles L., Jr., 22 Bramhall St., Portland (9)  
 Perri, John A., 331 Veranda St., Portland (3)  
 Perrault, Oscar W., 30 South St., Biddeford (15)  
 Peterlein, Walter R., Jr., 75 Main St., Springvale (15)  
 Petterson, Herman C., Chebeague Island (3)  
 Pfeiffer, Paul H., 14 Gilman St., Waterville (6)  
 Philbrick, Maurice S., 292 Water St., Skowhegan (12)  
 Philpot, Van B., Jr., Cary Memorial Hospital, Caribou (2)  
 Pines, Philip, Maine St., Limestone (2)  
 Platt, Anna, Beauchamp Rd., Rockport (7)  
 Winter Address — 110 Manatee Rd., Belleair, Clearwater, Florida  
 Plimpton, Jay R., 283 Water St., Augusta (6)  
 Pogue, Jackson S., 529 Gilmore Ave., Trallord, Pa. (3)  
 Poliner, Irving J., 235 State St., Portland (3)  
 Polisner, Saul R., 143 Vaughan St., Portland (3)  
 Pomerleau, Ovid F., 179 Main St., Waterville (6)  
 Pomerleau, Rodolphe J. F., 27 Main St., Waterville (6)  
 Pooler, Harold A., State Hospital, Bangor (10)  
 Porter, Edward C., 489 State St., Bangor (10)  
 Porter, Joseph E., 22 Bramhall St., Portland (3)  
 Potts, Ronald S., Central Maine Gen. Hosp., Lewiston (1)  
 Poulin, Albert A., Cherry Hill Dr., Waterville (6)  
 Poulin, James E., 177 Main St., Waterville (6)  
 Powell, Ralph C., Damariscotta (8)  
 Pratt, George L., 7 Main St., Farmington (4)  
 Pratt, Harold S., Livermore Falls (1)  
 Pratt, Loring W., 177 Main St., Waterville (6)  
 Price, Richard D., E. Presque Isle Rd., Caribou (2)  
 Priest, Maurice A., 108 S. Stone St., Deland, Fla. (6)  
 Pritham, Fred J., Greenville Junction (11)  
 Proctor, Ray A., Garden Circle, Caribou (2)  
 Proctor, Thomas E., Boothbay Harbor (8)  
 Proudian, Paul O., 776 Main St., Westbrook (3)  
 Proulx, Harvey J., 92 Pine St., Lewiston (1)  
 Provost, Helen C., 48 Green St., Augusta (6)  
 Provost, Pierre E., 48 Green St., Augusta (6)  
 Purinton, Watson S., 15 Ohio St., Bangor (10)  
 Purinton, William A., 15 Ohio St., Bangor (10)

## R

Rand, Carleton H., 219 Oak St., Lewiston (1)  
 Ray, Ferris S., 131 Chadwick St., Portland (3)

Read, Seth H., 15 Church St., Belfast (13)  
 Reed, Howard L., 68 Water St., Skowhegan (12)  
 Reed, James W., 18 Main St., Farmington (4)  
 Reel, John J., 59 So. Front St., Richmond (6)  
 Reeves, Edward L., 179 Sabattus St., Lewiston (1)  
 Reeves, Helene M., 179 Sabattus St., Lewiston (1)  
 Reynolds, Arthur P., 29 Second St., Presque Isle (2)  
 Reynolds, John F., 216 Main St., Waterville (6)  
 Reynolds, Ralph L., 216 Main St., Waterville (6)  
 Richards, Carl E., 34 Winter St., Sanford (15)  
 Richards, Lee W., Jr., 21 Western Ave., Augusta (6)  
 Richardson, C. Earle, 3 Cumberland St., Brunswick (3)  
 Rideout, Samuel, 3 Green St., Fort Fairfield (2)  
 Ridlon, Magnus F., 99 Broadway, Bangor (10)  
 Risley, Edward H., P. O. Box 143, Prides Crossing, Mass. (6)  
 Robert, Roger J. P., 331 Main St., Saco (15)  
 Robertson, George J., 33 College Ave., Waterville (6)  
 Robinson, Carl M., Waite's Landing, Falmouth (3)  
 Robinson, Hugh P., 131 Chadwick St., Portland (3)  
 Rock, Daniel A., 477 Main St., Lewiston (1)  
 Root, John A., 22 White St., Rockland (7)  
 Ross, H. Danforth, 34 Winter St., Sanford (15)  
 Ross, Maurice, 372 Main St., Saco (15)  
 Roussin, William T., 48 Bacon St., Biddeford (15)  
 Rowe, Daniel M., Kirkwood Rd., Scarborough Beach (3)  
 Rowe, Gunther H., 42 Main St., Livermore Falls (4)  
 Rowe, Linwood M., 11 Franklin St., Rumford (9)  
 Royal, Albert P., Jr., 82 Maine Ave., Rumford (9)  
 Ruhlin, Carl W., 205 French St., Bangor (10)  
 Runyon, William N., 283 Water St., Augusta (6)  
 Russell, Daniel F. D., Leeds (1)  
 Russell, Robert F., Penobscot (5)

## S

Sager, George F., 18 Bramhall St., Portland (3)  
 Sanders, Stephen W., 120 Main St., Winthrop (6)  
 Santoro, Domenico A., 43 Deering St., Portland (3)  
 Sapiro, Howard M., 171 State St., Portland (3)  
 Saunders, Allen I., Ferry Rd., R.F.D. 2, Augusta (6)  
 Savage, Richard L., 4 Em St., Fort Kent (2)  
 Sawyer, Howard P., Jr., 22 Bramhall St., Portland (3)  
 Schmidt, Lorimer M., Veterans Administration, Togus (6)  
 Schumacher, William E., 14 Westwood Rd., MD "B", Augusta (6)  
 Schwartz, Carol, 3 Deering St., Portland (3)  
 Scolten, Adrian H., 32 Deering St., Portland (3)  
 Scribner, Herbert C., 29 Summit Ave., Wakefield, Mass. (10)  
 Sears, Harold G., Second Ave., Woodland (14)  
 Seligman, Morris J., Veterans Administration, Togus (6)  
 Selva, Irving L., Jr., 22 Bramhall St., Portland (3)  
 Sever, James W., Cape Neddick (15)  
 Sewall, Elmer M., 14 Park St., Orono (10)  
 Sewall, Kenneth W., 2 School St., Waterville (6)  
 Shamon, Charles E. G., 9 Park St., Waterville (6)  
 Shapero, Benjamin L., 142 Pine St., Bangor (10)  
 Shapiro, Morrill, 29 Deering St., Portland (3)  
 Shaw, John H., 8 Wheeler Park, Brunswick (3)  
 Shelton, M. Tieche, 21 Western Ave., Augusta (6)  
 Shems, Albert, 487 Main St., Lewiston (1)  
 Shields, Daniel R., 369 Main St., Lewiston (1)  
 Shippee, James N., 122 Main St., Winthrop (6)  
 Shubert, Alice J., 317 State St., Bangor (10)  
 Shubert, William M., 317 State St., Bangor (10)  
 Shurman, Hans, 10 Spring St., Dexter (10)  
 Sidwell-Thompson, Doris M., R.F.D. Whittier Rd., W. Ossipee, N. H. (3)  
 Simpson, Margaret R., Box 275, Togus (6)  
 Skillin, Charles E., 690 Congress St., Portland (3)  
 Skillin, Frederick W., 69 So. High St., Bridgton (3)  
 Sleeper, Francis H., Box 724, State Hospital, Augusta (6)  
 Small, Foster C., 169 High St., Belfast (13)  
 Smith, Carroll H., Box 967, Presque Isle (2)  
 Smith, Edgar J., 1 Park St., Fairfield (12)  
 Smith, Gerald R., Ogunquit (15)  
 Smith, Henry F., Jackman Station (12)  
 Smith, Hugh A., Eastern Maine Gen. Hosp., Bangor (10)  
 Smith, Jacob, 118 Front St., Bath (8)  
 Smith, Joseph I., 118 Front St., Bath (8)



Smith, Kenneth E., Veterans Administration, Togus (6)  
 Smith, Margaret S., Box 967, Presque Isle (2)  
 Smith, Oney P., Post Rd., Wells (15)  
 Somerville, Robert B., 45 Hillside St., Presque Isle (2)  
 Somerville, Wallace B., Mars Hill (2)  
 Sommerfeld, Kurt A., 5 Brunswick Ave., Gardiner (6)  
 Soule, Gilmore W., 22 White St., Rockland (7)  
 Southern, Edward M., 34 Gilman St., Waterville (6)  
 Southworth, John D., Hartland (14)  
 Sowles, Horace K., 413 Blackstrap Rd., Falmouth (3)  
 Spear, William, 107 Main St., Lisbon Falls (1)  
 Spellman, Francis A., Veterans Administration, Togus (6)  
 Stanhope, Charles N., Dover-Foxcroft (11)  
 Stanwood, Harold W., Dixfield (9)  
 Stebbins, Arthur P., 131 State St., Portland (3)  
 Steele, Charles W., 472 Main St., Lewiston (1)  
 Stein, Ernest W., 72 Main St., Pittsfield (13)  
 Stephenson, Richard B., 131 State St., Portland (3)  
 Sterlin, Andre, 10 High St., Fort Kent (2)  
 Stetson, Rufus E., Damariscotta (8)  
 Stevens, Carl H., 18 Franklin St., Belfast (13)  
 Stevens, Theodore M., 148 State St., Portland (3)  
 Stewart, Delbert M., 15 Main St., South Paris (9)  
 Stinchfield, Allan J., 16 E. Chestnut St., Augusta (6)  
 Stitham, Linus J., 50 Main St., Dover-Foxcroft (11)  
 Storer, Daniel P., 12 Deering St., Portland (3)  
 Striar, Ronald R., 94 Essex St., Bangor (10)  
 Strickland, Marian L., Easy St., Canaan (12)  
 Strout, Warren G., 205 French St., Bangor (10)  
 Stuart, Ralph C., Guilford (11)  
 Sturtevant, Vaughn R., 33 College Ave., Waterville (6)  
 Sullivan, George E., R. F. D. 1, Fairfield (12)  
 Sullivan, John R., 340 North Main St., Brewer (10)  
 Suyama, Eji, 58 W. Main St., Ellsworth (5)  
 Sweatt, Linwood A., 48 Drummond St., Auburn (1)  
 Swett, Alfred E., 308 Minot Ave., Auburn (1)  
 Swett, Clyde L., 18 Sherman St., Island Falls (2)  
 Sylvester, Stanley B., 1377 Washington Ave., Portland (3)  
 Szelenyi, Ernest, Central Maine Sanatorium, Fairfield (12)  
 Szendey, Andrew M., 26 Gray St., Madison (12)

## T

Tabachnick, Henry M., 110 Park Ave., Portland (3)  
 Tashiro, Sabro, 181 Highland Ave., Gardiner (6)  
 Taylor, H. Lewis, 25 Church St., Dexter (10)  
 Taylor, Paul E., 9 Wentworth St., Kittery (15)  
 Taylor, William E., Providence Ave., Falmouth Foreside (3)  
 Tchao, Jou S., 82 Pine St., Lewiston (1)  
 Telfeian, Alphonse, 690 Congress St., Portland (3)  
 Temple, George L., Fahey St., Belfast (13)  
 Tetreau, William J., 144 Spring St., Portland (3)  
 Thacher, Henry C., 117 Goff St., Auburn (1)  
 Thaxter, Langdon T., Route 100, Portland (3)  
 Thegen, W. Edward, Elm St., Bucksport (5)  
 Thomas, Philip B., 205 French St., Bangor (10)  
 Thompson, Philip P., Jr., 131 Chadwick St., Portland (3)  
 Tibbetts, Otis B., 181 Gamage Ave., Auburn (1)  
 Titherington, John B., 209 State St., Portland (3)  
 Todd, Albert C., 185 North Main St., Brewer (10)  
 Torrey, Marcus A., 75 State St., Ellsworth (5)  
 Torrey, Raymond L., Main St., Searsport (13)  
 Tougas, Raymond A., 8 Cumberland St., Brunswick (3)  
 Tounge, Harry G., Jr., 12 Union St., Camden (7)  
 Tousignant, Camille, 111 Pine St., Lewiston (1)  
 Toussaint, Leonid G., P. O. Box 9, Fort Kent (2)  
 Towne, Charles E., 18 Common St., Waterville (6)  
 Tracy, Mary J., Bristol Rd., Damariscotta (8)  
 Trowbridge, Mason, Jr., 142 Pine St., Bangor (10)  
 Turcotte, Guy N., 38 Deering St., Portland (3)  
 Turgeon, Raphael F., 836 Main St., Westbrook (3)  
 Turnbull, Elliot D., 301 Allen Ave., Portland (3)  
 Turner, Harland G., R. F. D. 2, Norridgewock (12)

## U

Urganis, Janis, Box C, Pownal (3)

## V

Vachon, Robert D., 34 Winter St., Sanford (15)  
 Van Lonkhuyzen, Maurice, 31 Bramhall St., Portland (3)  
 Veilleux, Lucien F., 173 Main St., Waterville (6)  
 Ventimiglia, William A., 117 Hunt Dr., Fayetteville, N. Y. (3)  
 Vickers, Martyn A., 268 State St., Bangor (10)  
 Viger, Leopold A., 176 Elm St., Biddeford (15)  
 Vogell, Frederick C., So. Main St., Caribou (2)

## W

Wadsworth, Richard C., 489 State St., Bangor (10)  
 Waggoner, Gerard M., RMS, Fort Williams, So. Portland (3)  
 Wagner, Samuel L., 2 Holmes St., Winterport (10)  
 Wakefield, Robert D., St. Mary's Hospital, Lewiston (1)  
 Walker, George R., 128 Broadway, Bangor (10)  
 Ward, John V., 131 State St., Portland (3)  
 Ward, William W., 76 Limerock St., Rockland (7)  
 Wasgatt, Wesley N., 41 Talbot Ave., Rockland (7)  
 Waterman, Dorothy, Waldoboro (7)  
 Waterman, Richard, Waldoboro (7)  
 Weatherbee, George B., Main St., Hampden (10)  
 Weaver, Michael L., 36 Federal St., Brunswick (3)  
 Webber, Isaac M., 29 Deering St., Portland (3)  
 Webber, John R., Dark Harbor (13)  
 Webber, Merlon A., 33 Lancey St., Pittsfield (12)  
 Webber, Samuel R., Calais (14)  
 Webber, Wallace E., 297 Main St., Lewiston (1)  
 Webber, Wedgwood P., 376 Main St., Lewiston (1)  
 Weeks, DeForest, 158 Pleasant Ave., Portland (3)  
 Weisz, Hans, 194 Main St., Lincoln (10)  
 Wellington, J. Foster, 655 Congress St., Portland (3)  
 Weltman, Joseph S., Veterans Administration, Togus (6)  
 Westermeyer, Marion W., 32 Federal St., Brunswick (3)  
 Weymouth, Currier C., Eastmont, Farmington (4)  
 Weymouth, Raymond E., 194 Main St., Bar Harbor (5)  
 White, Leland M., So. Main St., Caribou (2)  
 White, William J., 1 Mitchell Rd., South Portland (3)  
 Whitney, Byron V., 280 State St., Bangor (10)  
 Whitney, Ray L., Cape Porpoise (15)  
 Whittier, Alice A. S., 143 Neal St., Portland (3)  
 Whitworth, John E., 116 Hammond St., Bangor (10)  
 Wight, Donald G., 30 Mitchell Rd., South Portland (3)  
 Wilbur, Herbert T., Jr., P. O. Box 175, Southwest Harbor (5)  
 Willard, Harold N., Thayer Hospital, Waterville (6)  
 Williams, Edward P., 72 Main St., Houlton (2)  
 Williams, James A., 40 Pleasant St., Mechanic Falls (1)  
 Williams, Ralph E., Main St., Freeport (3)  
 Williams, Thomas W., 50 Union St., Ellsworth (5)  
 Williamson, Elizabeth E., Blue Hill (5)  
 Williamson, Russell G., Blue Hill Mem. Hosp., Blue Hill (5)  
 Wilson, G. Ivan, 40 Court St., Houlton (2)  
 Wilson, Harry M., 944 Middle St., Bath (8)  
 Wilson, Robert D., Arthur R. Gould Mem. Hosp., Presque Isle (2)  
 Wilson, Robert W., Veterans Administration, Togus (6)  
 Winchenbach, Francis A., 910 Washington St., Bath (8)  
 Winslow, Donald J., Sisters Hospital, Waterville (6)  
 Wolfahrt, Eugene P., 338 Main St., Saco (15)  
 Wood, George W., III, 156 North Main St., Brewer (10)  
 Woodcock, Allan, 35 Second St., Bangor (10)  
 Woodcock, John A., 35 Second St., Bangor (10)  
 Woodman, Arthur B., 15 Johnson Rd., Falmouth Foreside (3)  
 Worthing, Verla E., Box A, Thomaston (7)  
 Wyman, David S., 47 Deering St., Portland (3)

## Y

Young, John, Bethel (9)

## Z

Zanca, Ralph, 86 Pine St., Lewiston (1)  
 Zikel, Herbert M., High St., Wilton (4)  
 Zolov, Benjamin, 296 Congress St., Portland (3)

# Woman's Auxiliary to the Maine Medical Association

## ANDROSCOGGIN COUNTY

Andrews, Mrs. S. L. 35 White St., Lewiston  
 Archambault, Mrs. Philip L. 373 College St., Lewiston  
 Beaudet, Mrs. Simon C. 25 Webster St., Lewiston  
 Beeaker, Mrs. Vincent H. 85 Wood St., Lewiston  
 Beegel, Mrs. Paul M. 80 Goff St., Auburn  
 Beliveau, Mrs. Bertrand A. 56 Howe St., Lewiston  
 Beliveau, Mrs. Romeo A. 89 Pine St., Lewiston  
 Bernard, Mrs. Romeo A. 26 Beacon St., Lewiston  
 Branch, Mrs. Charles F. 69 Gamage Ave., Auburn  
 Carrier, Mrs. John W. 53 Campus Ave., Lewiston  
 Chapin, Mrs. Milan A. 237 Turner St., Auburn  
 Chevalier, Mrs. Paul R. 353 Pine St., Lewiston  
 Clapp, Mrs. Waldo A. 215 College St., Lewiston  
 Clapperton, Mrs. Gilbert 21 Ryder St., Lewiston  
 Cloutier, Mrs. Wilfrid A. 210 Sabattus St., Lewiston  
 Cox, Mrs. William V. 82 Gamage Ave., Auburn  
 Dycio, Mrs. George 55 Broad St., Auburn  
 Fahey, Mrs. William J. 17 Frye St., Lewiston  
 Fishman, Mrs. Louis N. 223 Lake St., Auburn  
 Flanders, Mrs. Merton N. 370 Main St., Lewiston  
 Fortier, Mrs. Paul J. B. Barron Ave., Lewiston  
 Friend, Mrs. John W. 70 Western Ave., Auburn  
 Frost, Mrs. Robert A. 108 Summer St., Auburn  
 Gauvreau, Mrs. Horace L. 69 Horton St., Lewiston  
 Gauvreau, Mrs. Norman 69 Fair St., Lewiston  
 Giguere, Mrs. Eustache N. 98 Webster St., Lewiston  
 Goldman, Mrs. Morris E. 524 Main St., Lewiston  
 Goodwin, Mrs. Ralph A., Sr. 56 Denison St., Auburn  
 Goodwin, Mrs. Ralph A., Jr. 48 Grandview Ave., Auburn  
 Green, Mrs. Ross W. R.F.D. No. 2, Auburn  
 Greene, Mrs. John P. R.F.D. No. 2, Auburn  
 Greene, Mrs. Merrill S. F. 466 Main St., Lewiston  
 Gross, Mrs. Leroy C. 19 Goff St., Auburn  
 Haas, Mrs. Rudolph 484 Main St., Lewiston  
 Hannigan, Mrs. Charles A. 85 Goff St., Auburn  
 Hiebert, Mrs. Joelle C., Jr. R.F.D. No. 2, Auburn  
 Higgins, Mrs. Everett C. 149 College St., Lewiston  
 Hirshler, Mrs. Max 25 Bardwell St., Lewiston  
 Horsman, Mrs. Donald H. 50 Goff St., Auburn  
 James, Mrs. Chakmakis 47 Howe St., Lewiston  
 James, Mrs. John A. R.F.D. No. 2, Auburn  
 Konecki, Mrs. John T. R.F.D. No. 2, Auburn  
 LaFlamme, Mrs. Paul J. 106 Russell St., Lewiston  
 Lemaitre, Mrs. Paul G. 268 Webster St., Lewiston  
 Lidstone, Mrs. Frederick B. R.F.D. No. 2, Auburn  
 Martel, Mrs. Cyprien L., Jr. 24 Frye St., Lewiston  
 Mendes, Mrs. Joseph M. 221 Pleasant St., Lisbon Falls  
 Methot, Mrs. Frank P. 1 Bellegarde Circle, Lewiston  
 Miller, Mrs. Clark F. 46 Madison St., Auburn  
 Morissette, Mrs. Russell A. 69 Western Promenade, Auburn  
 Nadeau, Mrs. J. Paul 91 Pine St., Lewiston  
 O'Connell, Mrs. George B. 79 Shepley St., Auburn  
 Potts, Mrs. Ronald S. 18 Ware St., Lewiston  
 Proulx, Mrs. Harvey J. 435 East Ave., Lewiston  
 Rand, Mrs. Carleton H. 166 College St., Lewiston  
 Rock, Mrs. Daniel A. 477 Main St., Lewiston  
 Shems, Mrs. Albert 487 Main St., Lewiston  
 Shields, Mrs. Daniel R. R.F.D. No. 2, Auburn  
 Spear, Mrs. William 107 Main St., Lisbon Falls  
 Steele, Mrs. Charles W. 1 Wakefield St., Lewiston  
 Sweatt, Mrs. L. A. 48 Drummond St., Auburn  
 Swett, Mrs. Alfred E. 308 Minot Ave., Auburn  
 Thacher, Mrs. Henry C. Upper Turner St., Auburn  
 Tibbetts, Mrs. Otis B. R.F.D. No. 2, Auburn  
 Timberlake, Mrs. Ralph M., Jr. 24 Dexter Ave., Auburn  
 Twaddle, Mrs. Gard W. 57 Goff St., Auburn

Wakefield, Mrs. Robert D.  
 Webber, Mrs. Wedgwood P.

R.F.D. No. 2, Auburn  
 376 Main St., Lewiston

## AROOSTOOK COUNTY

Albert, Mrs. Armand Main St., Van Buren  
 Aungst, Mrs. Melvin R. 4 High St., Fort Kent  
 Boone, Mrs. Storer W. 54 Third St., Presque Isle  
 Brown, Mrs. Stephen S. Mars Hill  
 Collins, Mrs. H. Douglas Home Farm Rd., Caribou  
 Donahue, Mrs. Clement L. 13 Collins St., Caribou  
 Donahue, Mrs. Gerald H. 52 Dudley St., Presque Isle  
 Etscovitz, Mrs. Eli A. Home Farm Rd., Caribou  
 Faucher, Mrs. Francois J. Main St., Grand Isle  
 Frenette, Mrs. Francis F. Washburn  
 Giberson, Mrs. Raymond G. Hillside Ave., Presque Isle  
 Gregory, Mrs. Frederick J., Sr. Caribou  
 Hayward, Mrs. I. Mead Caribou  
 Johnson, Mrs. R. Paul Hall St., Fort Kent  
 Higgins, Mrs. George F. 14 Dudley St., Presque Isle  
 Kimball, Mrs. Herrick C. Presque Isle Rd., Fort Fairfield  
 Kirk, Mrs. William V. Eagle Lake  
 Kramer, Mrs. Henry F. 26 Pioneer Ave., Caribou  
 Pendleton, Mrs. Arthur D. 7 Forest Ave., Fort Fairfield  
 Pines, Mrs. Philip 22 Long Rd., Limestone  
 Rideout, Mrs. Samuel 2 Depot St., Fort Fairfield

## CUMBERLAND COUNTY

Agan, Mrs. Robert W. 3 Rockv Hill Rd., Cape Elizabeth  
 Ansell, Mrs. Harvey B. 136 Baxter Blvd., Portland  
 Aranson, Mrs. Albert 177 Caleb St., Portland  
 Asali, Mrs. Louis A. Kirkwood Rd., Scarborough  
 Asherman, Mrs. Edward G. 275 Falmouth Rd., Falmouth  
 Babalian, Mrs. Leon Surf Rd., Cape Cottage  
 Baldini, Mrs. Elio 89 West St., Portland  
 Baldwin, Mrs. Warren C. Andrews Rd., Falmouth Foreside  
 Bennett, Mrs. Eben T. Shore Rd., Cape Elizabeth  
 Bidwell, Mrs. Robinson L. 24 Casco Ter., Falmouth Foreside  
 Bischoffberger, Mrs. John M. Naples  
 Blaisdell, Mrs. Elton R. 35 Penrith Rd., Portland  
 Blumberg, Mrs. Edward Box C, Pownal  
 Bove, Mrs. Louis G. 95 West St., Portland  
 Branson, Mrs. Sidney R. Grav Rd., South Windham  
 Broggi, Mrs. Frank S. 18 Neal St., Portland  
 Brown, Mrs. Douglas H. Birchwood Rd., Cape Elizabeth  
 Brown, Mrs. Luther A. 13 Deering St., Portland  
 Burnett, Mrs. Claude A., Jr. Delano Park, Cape Elizabeth  
 Burrage, Mrs. William C. 53 Chadwick St., Portland  
 Capron, Mrs. Charles W. Hunnewell Rd., Scarborough  
 Clark, Mrs. Frederick B. 112 Foreside Rd., Falmouth Foreside  
 Clarkin, Mrs. Charles P. 64 Brookside Rd., Portland  
 Cole, Mrs. Donald P. 55 Cottage Farms Rd., Cape Elizabeth  
 Crane, Mrs. Lawrence 265 Western Promenade, Portland  
 Cummings, Mrs. George O. 583 Shore Rd., Cape Elizabeth  
 Cummings, Mrs. George O., Jr. 13 West St., Portland  
 Curtis, Mrs. Harry L. 45 Wellington Rd., Portland  
 D'Andrea, Mrs. Anthony L. 42 Noyes St., Portland  
 Darche, Mrs. Albert A. 143 King St., Westbrook  
 Davies, Mrs. Lloyd G. 78 Main St., Fryeburg  
 Davis, Mrs. Harry E. Bramhall Field, Falmouth Foreside  
 Dionne, Mrs. Maurice J. Pleasant Hill Rd., Brunswick  
 Dooley, Mrs. Francis M. 53 Deering St., Portland  
 Dorsey, Mrs. F. Donald 52 Deering St., Portland  
 Douphinett, Mrs. Otis J. Maple Ave., Scarborough  
 Drake, Mrs. Emerson H. State Rd., Cumberland Foreside  
 Drake, Mrs. Eugene H. County Rd., South Gorham



Drummond, Mrs. Joseph B. Ship Channel Rd., So. Portland  
Dunham, Mrs. Carl E. 1122 Washington Ave., Portland  
Dyhberg, Mrs. Norman E. 331 Main St., Cumberland Mills  
Earnhardt, Mrs. Joseph B. 55 Stroudwater St., Westbrook  
Eppinger, Mrs. Ernst 52 Belmont St., Portland  
Fagone, Mrs. Francis A. 173 Bolton St., Portland  
Ferguson, Mrs. Franklin F. Surf Rd., Cape Cottage  
Fish, Mrs. Nicholas State Rd., Cumberland Foreside  
Fogg, Mrs. Philip S. 173 Pleasant Ave., Portland  
Fox, Mrs. Francis H. 83 West St., Portland  
Gates, Mrs. Clifford W. Flaggy Meadow Rd., Gorham  
Geer, Mrs. Charles R. 212 Vaughan St., Portland  
Geer, Mrs. George L., Jr. 58 Clifford St., South Portland  
Gehring, Mrs. Edwin W. 284 Ocean Ave., Portland  
Gibbons, Mrs. John F. Maiden Cove Lane, Cape Elizabeth  
Glassmire, Mrs. Charles R. 20 Drew Rd., South Portland  
Goduti, Mrs. Richard J. 16 Brown St., Portland  
Good, Mrs. Philip G. 126 Fickett St., South Portland  
Hallett, Mrs. George W., Jr. Shore Rd., Cape Elizabeth  
Haney, Mrs. Oramel 74 Deering St., Portland  
Hanley, Mrs. Daniel F. 58 Federal St., Brunswick  
Hawkes, Mrs. Richard S. 174 Longfellow St., Portland  
Hecht, Mrs. Henry 326 Stevens Ave., Portland  
Heifetz, Mrs. Ralph 112 Chenery St., Portland  
Hill, Mrs. Douglas R. 2 State Ave., Cape Elizabeth  
Hinckley, Mrs. Harris Shore Rd., Cape Elizabeth  
Holt, Mrs. C. Lawrence 230 Foreside Rd., Falmouth Foreside  
Hudson, Mrs. Henry A. 11 Gage St., Bridgton  
Ives, Mrs. Howard R. 56 Bowdoin St., Portland  
Johuson, Mrs. Albert C. Shore Acres, Cape Elizabeth  
Johnson, Mrs. Oscar R. 18 Deering St., Portland  
Knowles, Mrs. Robert M. Cumberland Foreside  
Lape, Mrs. C. Philip 132 Chadwick St., Portland  
Leary, Mrs. Gerald C. 7 Redlon Rd., Portland  
Lincoln, Mrs. John R. 120 Woodville Rd., Falmouth  
Logan, Mrs. G. E. C. 44 Shore Line Dr., Falmouth  
Lorimer, Mrs. Robert V. 1 Ocean Rd., South Portland  
Lovely, Mrs. David K. 52 Berkeley St., Portland  
Mack, Mrs. Francis X. 1473 Westbrook St., Portland  
MacVane, Mrs. William L., Jr. 25 Storer St., Portland  
Maltby, Mrs. George L. Bramhall Field, Falmouth Foreside  
Manol, Mrs. Jack 157 Pine St., Portland  
Marshall, Mrs. Donald F. Surf Rd., Cape Cottage  
Marston, Mrs. Paul C. Kezar Falls  
Martin, Mrs. Thomas A. 1415 Forest Ave., Portland  
Matthews, Mrs. Edward C. 127 Neal St., Portland  
Mautner, Mrs. Hans V. State Rd., Yarmouth  
Mazzone, Mrs. Giovanni 15 Fall Lane, Portland  
McCann, Mrs. Eugene C. 4 Woodmont St., Portland  
McCrum, Mrs. Philip H. 15 Fairlawn Ave., South Portland  
McIntire, Mrs. Barron F., Jr. 13 W. Elm St., Yarmouth  
McLean, Mrs. E. Allan 331 Foreside Rd., Falmouth Foreside  
McManamy, Mrs. Eugene P. Surf Rd., Cape Cottage  
McMichael, Mrs. Morton Pope Rd., Windham Hill  
Monaghan, Mrs. Stephen E. 65 Drew Rd., South Portland  
Monkhouse, Mrs. William A. 29 Bowdoin St., Portland  
Morrison, Mrs. Alvin A. 165 Glenwood Ave., Portland  
Moulton, Mrs. Albert W., Jr. 97 Vaughan St., Portland  
Nichols, Mrs. Estes 59 West St., Portland  
O'Donnell, Mrs. Eugene E. 12 Cottage Farms Rd., Cape Elizabeth  
Olmsted, Mrs. Burton L. 8 Rock Wall Lane, Cape Elizabeth  
Orberton, Mrs. Everett A. 45 Channel Rd., South Portland  
Osher, Mrs. Harold L. 66 Chadwick St., Portland  
Ottum, Mrs. Alvin E. Falmouth Rd., Falmouth  
Pawle, Mrs. Robert H. 8 Walcott Ave., Falmouth  
Penta, Mrs. Walter E. 316 Woodford St., Portland  
Perkins, Mrs. Niles L., Jr. 135 Clinton St., Portland  
Pettersen, Mrs. Herman C. Chebeague Island  
Poliner, Mrs. Irving J. Hillcrest Rd., Cape Elizabeth  
Polisner, Mrs. Saul R. 143 Vaughan St., Portland  
Porter, Mrs. Joseph E. 53 Falmouth Rd., Falmouth  
Pudor, Mrs. G. A. 15 Sheffield St., Portland  
Ray, Mrs. Ferris S. 11 Forest Park, Portland  
Robinson, Mrs. Hugh P. Waites Landing, Falmouth Fortside  
Sager, Mrs. George F. Shore Rd., Cape Elizabeth  
Santoro, Mrs. Domenico A. 43 Deering St., Portland  
Sapiro, Mrs. Howard M. 44 Pitt St., Portland  
Sawyer, Mrs. Howard P., Jr. 672 Ocean Ave., Portland  
Selvage, Mrs. Irving L., Jr. 88 Ivie Rd., Cape Elizabeth

Shapiro, Mrs. Morrill 95 Caleb St., Portland  
Skillin, Mrs. Charles E. Sea Cove Rd., Cumberland Foreside  
Stebbins, Mrs. Arthur P. 996 Sawyer St., So. Portland  
Stephenson, Mrs. Richard B. 12 Woodland Rd., Cape Elizabeth  
Stevens, Mrs. Theodore M. 9 Ricker Park, Portland  
Storer, Mrs. Daniel P. 108 Fessenden St., Portland  
Sylvester, Mrs. Allan W. 396 Ocean Ave., Portland  
Sylvester, Mrs. Stanley B. 1346 Westbrook St., Portland  
Tabachnick, Mrs. Henry M. 110 Park Ave., Portland  
Taylor, Mrs. William F. Providence Ave., Falmouth Foreside  
Tetreau, Mrs. William J. 25 Fall Lane, Portland  
Thaxter, Mrs. Langdon T. State Rd., Cumberland Foreside  
Thompson, Mrs. Philip P., Jr. 7 Ship Channel Rd., So. Portland  
Titherington, Mrs. John B. 97 Brook Rd., Falmouth  
Turcotte, Mrs. Guy N. 6 Oakwood Rd., Cape Elizabeth  
Turgeon, Mrs. Raphael F. 68 Lyman St., Westbrook  
Van Lonkhuyzen, Mrs. Maurice Shore Rd., R. 2, Cape Elizabeth  
Webber, Mrs. Isaac M. Penrith Rd., Portland  
Wellington, Mrs. J. Foster 396 Brighton Ave., Portland  
White, Mrs. William J. 1 Mitchell Rd., South Portland  
Wight, Mrs. Donald G. 30 Mitchell Rd., South Portland  
Williams, Mrs. Ralph E. Main St., Freeport  
Woodman, Mrs. George M. 826 Main St., Westbrook  
Wyman, Mrs. David S. 7 Bayview Ave., South Portland  
Zolov, Mrs. Benjamin 430 Baxter Blvd., Portland

## FRANKLIN COUNTY

Bowne, Mrs. Hays G. 9A Main St., Farmington  
Brinkman, Mrs. Harry 47 Perham St., Farmington  
Chase, Mrs. Philip B. 36 Main St., Farmington  
Colley, Mrs. Maynard B. Main St., Wilton  
Covert, Mrs. S. Burton Kingfield  
Duffy, Mrs. Wallace H. 100 Main St., Farmington  
Eastman, Mrs. Charles W. 15 Millet St., Livermore Falls  
Fichtner, Mrs. Paul A. 6 Pleasant St., Rangeley  
Florica, Mrs. Gaetano T. 12 Church St., Chisholm  
Floyd, Mrs. Paul E. 2 Middle St., Farmington  
Marsters, Mrs. David W. Phillips  
Martin, Mrs. Joseph E. 43 High St., Livermore Falls  
Pratt, Mrs. Harold S. 18 Church St., Livermore Falls  
Reed, Mrs. James W. 18 Main St., Farmington  
Rowe, Mrs. Gunther H. 42 Main St., Livermore Falls  
Thompson, Mrs. Cecil F. Phillips

## KENNEBEC COUNTY

Ashley, Mrs. T. A. Sylvan Rd., Farmingdale  
Barnard, Mrs. John M. H. Malta Lane, Augusta  
Barron, Mrs. Richard E. East Monmouth  
Crawford, Mrs. Albert S. Veterans Adm., Togus  
Crawford, Mrs. Joseph R. 86 Winthrop St., Augusta  
Darlington, Mrs. Brinton T. Westwood Rd., Augusta  
Denison, Mrs. John D. 105 Brunswick Ave., Gardiner  
Giddings, Mrs. Paul D. 5 Winter St., Augusta  
Giddings, Mrs. Lane Purinton Ave., Augusta  
Gingras, Mrs. Adolphe J. 113 Northern Ave., Augusta  
Gingras, Mrs. Napoleon J. 124 State St., Augusta  
Lepore, Mrs. Anthony E. 76 School St., Gardiner  
Mathews, Mrs. Hugh J., Jr. 75 Brunswick Ave., Gardiner  
McLaughlin, Mrs. Clarence R. 152 Brunswick Ave., Gardiner  
McLaughlin, Mrs. Ivan E. Lewiston Rd., Gardiner  
Melendy, Mrs. Oakley A. Westwood Rd., Augusta  
Milliken, Mrs. Howard H. 105 Second St., Hallowell  
Moore, Mrs. Arnold W. 112 Eastern Ave., Augusta  
Morris, Mrs. Craig W. Church Hill Rd., Augusta  
O'Connor, Mrs. Francis J. 4 Woodlawn St., Augusta  
Ohler, Mrs. Robert L. East Winthrop  
Richards, Mrs. Lee W., Jr. Winthrop St., Augusta  
Robertson, Mrs. George J. 33 College Ave., Waterville  
Sanders, Mrs. Stephen W. 120 Main St., Waterville  
Saunders, Mrs. Allan I. Ferry Rd., Augusta  
Shippee, Mrs. James N. Main St., Winthrop  
Sleeper, Mrs. Francis H. Box 724, Augusta  
Sommerfeld, Mrs. Kurt A. 182 Dresden Ave., Gardiner  
Stinchfield, Mrs. Allan J. 6 Warren St., Hallowell



## KNOX COUNTY

Adams, Mrs. Lester 9 Knox St., Thomaston  
 Apollonio, Mrs. Howard L. Mechanic St., Rockport  
 Brouwer, Mrs. Johan 8 Mountain St., Camden  
 Dennison, Mrs. Frederick C. 52 Main St., Thomaston  
 Eddy, Mrs. Robert H. 130 Chestnut St., Camden  
 Heath, Mrs. Parker, Jr. 58 Washington St., Camden  
 Hopping, Mrs. John S. Beaver Lodge Rd., Hope  
 Jameson, Mrs. C. Harold Chestnut St., Camden  
 Kibbe, Mrs. Frank W. Lincolnville  
 King, Mrs. Merrill J. 89 Talbot Ave., Rockland  
 King, Mrs. Merrill J., Jr. West Rockport  
 Lawry, Mrs. Oram R., Jr. 96 Limerock St., Rockland  
 Mann, Mrs. David V. Belfast Rd., Camden  
 Millington, Mrs. Paul A. 44 Mountain St., Camden  
 Morse, Mrs. Edward K. 39 High St., Camden  
 McLellan, Mrs. William A. Chestnut St., Camden  
 Root, Mrs. John A. 81 Summer St., Rockland  
 Soule, Mrs. Gilmore W. 52 Gay St., Rockland  
 Tounge, Mrs. Harry G., Jr. 12 Union St., Camden  
 Ward, Mrs. William W. 76 Rankin St., Rockland  
 Wasgatt, Mrs. Wesley N. 41 Talbot St., Rockland

## LINCOLN-SAGADAHOC COUNTY

Akar, Mrs. Hamdi 17 Grove St., Bath  
 Belknap, Mrs. Samuel L. Damariscotta  
 Bostwick, Mrs. George W. Newcastle  
 Gregory, Mrs. Philip O. Boothbay Harbor  
 Hutchins, Mrs. Deane L. 69 Townsend Ave., Boothbay Harbor  
 Kershner, Mrs. Warren E. 57 Green St., Bath  
 Kinder, Mrs. Edward L., Jr. 1027 Washington St., Bath  
 Mullin, Mrs. Ann 3 Allen's Lane, Bath  
 Powell, Mrs. Ralph C. Damariscotta  
 Proctor, Mrs. Thomas E. Boothbay Harbor  
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 Smith, Mrs. Joseph I. 940 Washington St., Bath  
 Stott, Mrs. Ardenne A. 37 Park St., Bath  
 Winchenbach, Mrs. Francis A. 910 Washington St., Bath

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 Bean, Mrs. H. Richard Crocket Ridge, Norway  
 Dixon, Mrs. Walter G. 16 Deering St., Norway  
 Elmore, Mrs. Dexter E. Dixfield  
 Greene, Mrs. John A. 90 Congress St., Rumford  
 Grish, Mrs. Albert J. Lincoln Ave., Rumford  
 Harper, Mrs. Harry L. 17 Main St., South Paris  
 Howard, Mrs. Henry M. 105 Franklin St., Rumford  
 Hubbard, Mrs. Roswell E. Waterford  
 MacDougall, Mrs. James A. 303 Penobscot St., Rumford  
 Miller, Mrs. George W. 90 Main St., Norway  
 McCormack, Mrs. Roland L. 12 Bridge St., Norway  
 Nangle, Mrs. Thomas P. West Paris  
 Nelson, Mrs. Chesley W. 121 Main St., Norway  
 Oestrich, Mrs. Alfred Roxbury Rd., Mexico  
 Rowe, Mrs. Linwood M. 246 Penobscot St., Rumford

## PENOBSCOT COUNTY

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 Adams, Mrs. Winford C. R.F.D. 5, Brewer  
 Ames, Mrs. Forrest B. 13 Long Meadow Dr., Brewer  
 Babcock, Mrs. Edward B. 46 Norway Rd., Bangor  
 Barrett, Mrs. Robert J., Jr. 371 Union St., Bangor  
 Blackburn, Mrs. Nelson P. Winterport  
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 Cornell, Mrs. Robert C. 118 Forest Ave., Orono  
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 Cutler, Mrs. Lawrence M. 33 Grove St., Bangor

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 Gaillard, Mrs. Richard A. 91 Grove St., Bangor  
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 Osler, Mrs. Jay K. State St., Veazie  
 Palmer, Mrs. Thomas H., Jr. 490 State St., Bangor  
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 Weisz, Mrs. Hans 196 Main St., Lincoln  
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 Johnson, Mrs. James H., Jr. Milo  
 Lightbody, Mrs. Charles H. Guilford  
 Nelson, Mrs. Isaac Greenville  
 Nickerson, Mrs. Norman H. Greenville  
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 Pritham, Mrs. Fred J. Greenville Junction  
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 Stitham, Mrs. Linus J. 50 Main St., Dover-Foxcroft  
 Stuart, Mrs. Ralph C. Guilford

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 Dionne, Mrs. William E. 5 Edmond St., Springvale  
 Downing, Mrs. J. Robert 35 Summer St., Kennebunk  
 Drummond, Mrs. S. Dunton Bar Mills  
 Fortier, Mrs. Andre P. 200 Granite St., Biddeford  
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 Hoffman, Mrs. Alvin A. York  
 Hopkins, Mrs. Herbert J. 24 Portland Ave., Old Orchard  
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 Johnston, Mrs. James S. York  
 LaFond, Mrs. Robert S. 23 Weymouth St., Saco  
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 Mahaney, Mrs. William F. 338 Main St., Saco  
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 O'Sullivan, Mrs. William B. South St., Biddeford  
 Ouellette, Mrs. Marcel D. 7 Park St., Sanford  
 Richards, Mrs. Carl E. Main St., Alfred  
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 Ross, Mrs. H. Danforth 12 Storer St., Sanford



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Smith, Mrs. Gerald R.	Ogunquit
Vachon, Mrs. Robert D.	23 June St., Sanford
Viger, Mrs. Leopold A.	34 Orchard St., Biddeford
Wolfahrt, Mrs. Eugene P.	24 Hall Ave., Saco

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